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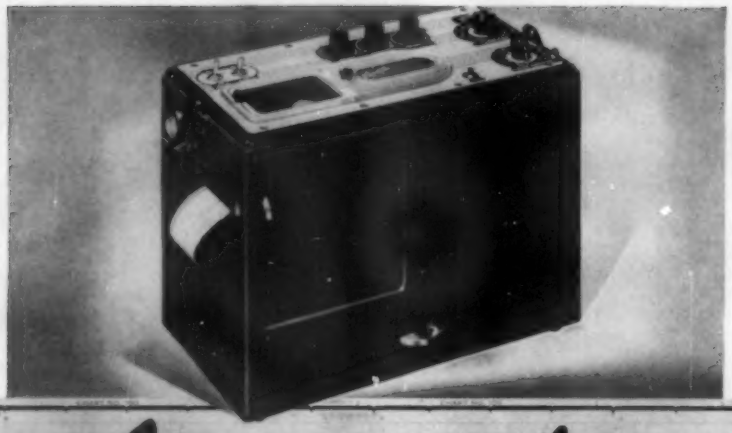

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Painful Conditions of the Shoulder Joint

Irvin Stein, M.D.

There are many conditions producing pain in the shoulder joint area, on the basis either of a diseased process in the shoulder itself, or of pain referred from disease elsewhere in the body. The following is an outline of the more common of these conditions:

(1) Subdeltoid bursitis; frozen shoulder
(2) Shoulder cuff lesions
(3) Rupture of the tendon of the long head of the biceps
(4) Scalenus anticus syndrome
(5) Coracoid syndrome
(6) Cervical spine lesions
  a. Cervical arthritis
  b. Cervical protruded disc
  c. Cervical rib; complete or partial
(7)
  a. Shoulder joint or scapula
  b. Superior sulcus
  c. Spinal cord
(8) Metabolic disturbance, such as gout
(9) Vascular or circulatory disturbance
  a. Arterioschlerotic changes in subclavian artery
  b. Spasm producing anginal attacks
  c. Coronary thrombosis
  d. Aneurysm of the great vessels, especially subclavian or innominate
(10) Joint diseases
  a. Degenerative (hypertrophic)
  b. Rheumatoid
  c. Pyogenic
  d. Tuberculosis
  e. Luetic
  f. Causalgic

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Subdeltoid bursitis is a term used to describe an acutely painful condition of the shoulder which is sudden in onset and markedly disabling. Actually, it is subdeltoid bursitis secondary to calcarious tendonitis. It is the final event of a sequence which has had its beginning long before the acute flare-up. It begins with the wear and tear due to use of the shoulder and to injuries which occur in the muscle tendon insertion into the head of the humerus in the region of the greater and lesser tuberosities. This is the so-called rotator cuff, named because the muscles inserting into this area act by rotation of the head of the humerus in the shoulder joint. They also initiate and maintain an abducted position of the arm. This movement is a most important one, used primarily by the higher forms of life.

Over a long period of time, even normal use of the shoulder produces considerable wear and tear. These tears occur as a fraying of muscle and tendon where they fuse into the capsule which attaches to the bone of the humeral head. Nature attempts to heal these tears by the formation of scar tissue, and often, later in the process, calcified material is deposited into this scar tissue, which commonly acts as a focus for calcified deposits in the region of the joints.

It is well known that tendons do not have a

blood supply. However, scar tissue forms through cell proliferative reaction and these deposits occur by tissue fluid interchange and supply. The mechanism of calcium deposit is based probably on a local alkalosis of tissue associated with absorption of frayed edges and degeneration of these edges.

As long as the deposit remains within the tendon no untoward reaction occurs. However, sudden injury may cause a rent in the tendon, or further degeneration may take place, and the resultant opening permits leakage of some of the foreign material into the tissues around the tendon which forms the floor of the subdeltoid bursa.

This bursa has a blood supply, and following the leakage an immediate reaction is produced in the bursa. This foreign body must strike an area supplied with blood to produce a reaction. When it does cause a reaction, the inflammatory change is as violent as the reaction to a pyogenic organism. Since the inflamed bursa is a closed sac, agonizing and persistent pain and tenderness result.

It is therefore obvious that acute symptoms will continue until the foreign body has been absorbed and the reaction has subsided. This may occur in a few hours if no additional material is released, or may continue for days or weeks if the amount released is sizable. However, such material may be released bit by bit over a period of many months, resulting in repeated bouts of symptoms and remissions.

Our therapeutic problem, therefore, is to determine approximately the amount of foreign body to be removed. This can be done by x-ray study. If the amount is very small, heat application and sedation may suffice: the former to increase the rate of absorption (even though the process becomes more acute temporarily as a result), the latter to make the patient more comfortable until his condition is improved.

If the amount appears on the film as milky and hazy rather than dense, and is appreciable, as much as possible must be freed as quickly as possible. This can be done by needling and washing out the area. Application of heat locally, with the resultant increase in blood flow, aids nature in absorbing the material more quickly. Any form of heat, but preferably short wave diathermy, is valuable. Another adjunct which gives much comfort is histamine or mecholyl iontophoresis.

Short wave diathermy should always be chosen, if possible. It is particularly indicated if used in conjunction with x-ray therapy. However, if such measures are used, the patient should be warned to expect a severe exacerbation of symptoms. The increase in local heat, plus the increase in blood flow incident to the use of short wave diathermy, serves to intensify the reaction. Of course, such an intensified reaction will mean quicker absorption of foreign body and quicker recovery.

In the very acute phase, an intense reaction may be achieved through the use of x-ray therapy. The same reaction, and for the same reasons, as occurs in short wave iontophoresis, may follow; but often quick and prolonged relief results. Marked relief in 60 per cent of acute cases can be accomplished through the use of x-ray therapy alone within a few days. Results are more certain and even more rapid if roentgen therapy is combined with heat, preferably short wave diathermy. Occasionally, these two modalities either separately or together will quickly relieve acute symptoms with no acute flare-up.

When x-ray therapy is combined with short wave therapy the reaction is more intense, but the effect is the most rapid, except when needling of the bursa and tendon is added. Improvement and relief occur in one to ten days.

In acute cases if effective results require more than ten days, then one may assume that therapy has had little effect, for it is obvious from the etiology of this condition that it can clear up spontaneously.

The sole value of treatment is rapid relief of symptoms by intensification of reaction.

In chronic cases where the release of material is intermittent and drawn out, therapy again is indicated to shorten the overall period of trouble.

To sum up heat and sedation will aid chiefly in giving some comfort and in moderately shortening the duration of symptoms.

Short wave diathermy usually will produce an acute flare-up because it intensifies the reaction. At the same time, the course of symptoms will be appreciably reduced.

Needling of the sac and multiple puncturing of the bursa and tendon to release the foreign material usually will produce an acute flare-up. Again, the overall period of symptoms will be reduced.

Occasionaly, needling of the sac and washing out most of the foreign material can be accomplished. If so, relief of symptoms will be obtained with a minimal reaction as little or none of the foreign body is left to produce reaction by absorption.

Surgery to actually clean out the deposit is effective, but rarely indicated.

X-ray therapy to an inflamed bursa will produce immediate relief in some cases, and in about 60 per cent of cases, effective results are obtained. Often there may be an acute but temporary aggravation of symptoms due to the therapy.

Frozen shoulder is a second condition which is often confused with the so-called subdeltoid bursitis

syndrome. Actually this condition results from contraction of all the structures in the region of the shoulder joint. Any condition causing pain in the region of the shoulder with resultant limitation of motion or fixation of the joint by the patient will produce this condition.

An example is the shoulder disability often seen following fracture in the region of the wrist. We are told that the painful stiff-shoulder syndrome is worse than the broken wrist as it may cause pain and limitation of motion long after the wrist is healed and wrist-hand function is recovered. The reason such a condition develops is because with a cast or other fixation on the wrist, the natural tendency is to hold the arm at the side. When normal movement is thus reduced or restricted for a long time, the tissues in the periarticular region of the shoulder contract. This results in pain on attempted motion for such motion stretches and pulls upon taut tissues. Frozen shoulder also may occur following fracture and dislocation in the region of the shoulder joint.

In frozen shoulder, the contractions involve all of the structures of the joint, thus limiting motion in all directions. Patients find themselves unable to dress, and in severe cases to feed themselves, or, in the instance of women, to comb their hair.

It becomes obvious that with such marked contraction of all the structures about the shoulder joint, something must be done to stretch these tightened tissues. The "freezing" of the joint is not due to adhesive capsulitis and periarthritis of the shoulder. It actually is a pure contraction and shrinking of all tissues. This capsule must be stretched and even torn loose in contracted areas by mechanical means, and this is best done by manipulation. Manipulation tears these soft structures about the shoulder joint, but bone and joint injury such as fracture or dislocation is avoided by carrying out such manipulation with great care. After manipulation has been carried out for all planes of motion (abduction, then external rotation, internal rotation, flexion, extension) the arm is placed in a position of marked elevation and external rotation since the usual contracted position is in adduction and internal rotation. It is held in this position for one or two days, then carried carefully through a normal arc of motion several times daily, after which exercise period the arm is again tied in the corrected position for about two weeks after manipulation. This keeps the torn areas open and allows scar patches to form in them, but not to draw the edges of the tear together and recontract, which would occur if the arm were allowed at the side again.

X-ray therapy is valuable at this stage to alleviate the acute process and to reduce fibroblastic activity and thereby hold down the tendency for scar tissue formation.

Opiates and other sedation will be found necessary at this stage. Remarkable results are reached in this fashion, but true cooperation between physician and patient plus a great deal of patience is essential. To obtain full motion with no pain requires approximately three months after manipulation, the last two months being used for physical therapy two or three times weekly during which time a full range of motion in all directions is carried out to prevent recontraction. The patient is instructed also to exercise passively and actively. The best way is to bend over and swing the arm through a whole circle, which slowly stretches the shoulder in all directions. Wall climbing and workout on a wheel and a ladder are also valuable and should be done vigorously at each physical therapy treatment. The patient also should be instructed to exercise assiduously at home by the arm-swinging exercise, wall climbing, and to check his progress on the height he is able to reach each day.

Tears of the shoulder cuff are frequent occurrences and must be differentiated from the above conditions. Usually they occur following a violent strain of the shoulder; a fall upon the point of the shoulder; a sudden strain in bearing all the weight of a heavy object unexpectedly, or a fall such as occurred to a carpenter, when he fell from a scaffold and on the way down became caught on the cornice of a window with his right hand. He held on despite the enormous pull of his body on the arm and shoulder joint. Sudden movements, especially unexpected ones, such as those in boxing, can and do produce small tears.

The patient often feels an immediate sensation of tear plus immediate disability of the shoulder, as indicated by inability to initiate abduction and to maintain abduction against resistance. There is also severe pain on any attempted motion requiring movement against gravity, yet a full range of motion can be accomplished without combatting the forces of gravity relatively painlessly. This is accomplished by having the patient bend over and swing his arm in a circle. This can be done in shoulder cuff tears, but not in acute processes about the shoulder joint, such as subdeltoid bursitis. This, therefore is a very good method of differential diagnosis.

Many people develop such tears in a lifetime. It has been reported by McLaughlin that an appreciable per cent of autopsies show these tears. Obviously, therefore, people compensate automatically for such a condition if it is not too severe. Severe tears must be repaired; the earlier, the better. A high percentage of cases will heal if the arm is kept in abduction for as long as three or four weeks, prefer-

ably in plaster. The rest require operative suture of the ruptured cuff. This is done through a saber incision over the tip of the shoulder at the junction of the trapezius and deltoid. The tip of the acromion is removed and the rent sutured. The rent will be V-shaped and the tendonous cuff will appear frayed. This means that the bone will have to be roughened up and the rent closed as tightly as possible. Then the extremity is supported in abduction for at least three weeks post-operatively. Except in very fresh tears, one can rarely reapposition the torn capsule. Usually the best one can do is freshen the bone and draw the edges of the rent together from side to side. Obviously, however, the surgical procedure varies in the acute tear as compared to that tear which has been existent for some time.

Rupture of the tendon of the long head of the biceps occurs occasionally and is observed by diminution of muscle belly size in the arm plus weakness in flexion and supination of the forearm. In addition, loss of tendon substance in the region of the intertubercular groove is evident. Treatment consists of surgical repair in which the distal end of the tendon is sewed to the transverse ligament.

Arthritic changes in the shoulder occur in such conditions as pyogenic involvement, rheumatoid arthritis, tuberculous arthritis or even Charcot's joint. In this instance there may be constitutional effects such as fever in pyogenic infection. There may be considerable enlargement in the joint and changes in the joint on clinical and roentgen examination typical of this condition. The treatment of each type of arthritis varies from simple palliative treatment with support, salicylates, etc., to surgery for the most serious.

Scalenus anticus syndrome is a name given a condition in which there is a spasm or actual contraction of the scalenus anticus muscle. In such an instance, this tight muscle compresses the subclavian artery and the ulnar nerve with resultant circulatory changes in the hand and arm as well as neurological changes. There have even been reported gangrenous changes in the fingers of the involved extremity.

However, it appears that generally this muscle goes into spasm or tends to contract as a reaction to an irritative process about the neck or shoulder. Commonly it is associated with a protruded cervical disc. But this syndrome may be found following subdeltoid bursitis, arthritis of the cervical spine, arthritis of the shoulder, and almost any other disease process in that area. In many instances this spasm or contraction of the muscle can be alleviated by procaine infiltration of the muscle. In any case in which the muscle is tight this will relieve symptoms at least temporarily. Generally one or at most a few of these infiltrations will serve to dissipate the process. Rarely, if the disease causing the scalene muscle to contract is corrected and the spasm or contraction persists, scalenotomy may have to be done.

Coracoid Syndrome is a condition described by the Kendalls of the Children's Hospital School in Baltimore. This is a painful shoulder and arm condition resulting from postural defect. It occurs in the rounded back type of individual where the trapezius muscle is kept on the stretch constantly, thereby weakening it and at the same time allowing contraction of the pectoralis minor plus the short head of the biceps and the coracobrachialis. When these structures contract, thereby tilting the shoulder blade, vascular and neurological changes similar to those seen in a scalenus anticus syndrome occur. This is rapidly amenable to correction of posture, improvement of trapezius power, stretching of the group attached to the coracoid process and teaching the patient to hold the shoulders back and up. Incidentally, this postural approach and study of body mechanics from the viewpoint of muscle imbalance is a most important one that should be more thoroughly developed in the future.

Cervical arthritis: In normal life, the neck is subjected to considerable wear and tear. In any event, it has been shown that the intervertebral discs can be worn down, producing marked proliferative bone changes in the adjacent vertebral discs. We develop at times small deposits so that the intervertebral foramena are impinged upon and actual paralysis can result.

One can see that as a result of even simple degenerative arthritis, symptoms can occur in the shoulder, arm, chest, et cetera, and often a diagnosis of heart disease has been made when the true cause is arthritic change in the cervical spine.

Pyogenic involvement and *osteomyelitis* occur here too, with symptoms. Here we also find a condition rare in the cervical spine: tuberculosis. Tumors of primary and secondary form also can involve the cervical spine. These may appear in the spinal canal with neurological changes due to pressure on the cord or roots; also, they may be outside in the bone or soft tissue.

Cervical protruded disc usually occurs in the level of C4, C5, or C6. Protrusion results from either degeneration of the containing posterior spinal ligaments or from some acute rupture in these structures. Posterior protrusion of the disc causes pressure upon nerve roots with attendant symptoms. In the cervical region, the disc may protrude directly backward and not to one side or the other only. Patients with this syndrome usually do not demonstrate the severe symptoms found in lumbar disc protrusion. They often are

amenable to conservative treatment in the form of head traction, supporting collar, physical therapy and sedation. Protruded cervical disc at times produces paralysis. If symptoms are severe and the patients do not react early to conservative treatment, surgery may be imperative. Relief after surgery takes many months as contrasted to rapid convalescence in lumbar protruded disc. Therefore, unless symptoms are most severe and persist unabated, persevere with conservative measures.

Tear of the posterior or anterior spinal ligaments without disc protrusion but with a tendency to sharply angulate at this point either on flexion or extension also occurs. Radiating pain from the involved area is present in such cases; also, at times, wry neck syndrome. Usually support and physical therapy will allow healing and bring relief.

Superior sulcus or Pancoast tumors are well known following the masterful description of the late Dr. H. K. Pancoast. These tumors can cause pain in the region of the shoulder comparable to the pain of subdeltoid bursitis.

A case in point would be that of the man who came in on a hot summer day, referred for pain in his shoulder. It was observed that he was perspiring freely on one side of his face only, and there was also a Horner's syndrome. This made it obvious that the problem here was a space-taking tumor in the lower cervical-upper dorsal spine which was probably eroding bone, so that both sympathetic and somatic fibers were caught. This diagnosis was confirmed by thorough study.

Neuritis and Neuralgia: "Foci of infection"—that bugaboo of so many and standby of so many others—must always be considered as associated with the condition of brachial neuralgia and at times neuritis. This is a real and most painful condition, and, following removal of infected areas such as abcessed teeth, results are dramatic. Other measures of proved value are head traction, collar support, physical therapy and sedation. We have seen temporary paralysis of the upper extremities varying from mild to severe involvement plus excruciating pain in such neuritides. At times, in the neuritic, the extremity involved may require plaster fixation in a neutral position for several weeks.

In the aged in particular, gout of the atypical type due to deposits of actual uric acid crystals in the soft tissues about the shoulder can cause much pain. A uric acid determination plus a urea value should always be done in shoulder complaints. Then, proper medical measures, including aspirin, and on rare occasions cinocophen and colchichine, are indicated.

Causalgias are characterized by a severe burning pain which is markedly disabling. Relief from stellate ganglion blocks with novocaine or removal of the ganglion surgically is of help. However, results often require months and there are occasional failures. This syndrome represents a real problem for the neurosurgeon or vascular surgeon.

Spinal cord tumors are rare, but do occur. Careful neurological check-up may indicate such a possibility, and, if on reasonable investigation no results are obtained, a double-check for such a condition becomes imperative. Many cases can be relieved if seen early enough by the neurosurgeon. It can be seen from this short summation of painful conditions that causes of pain in the shoulder joint can be myriad. It is of the utmost importance to consider the patient who has the condition, and not the condition alone which is being complained of by the patient.

Vigorous physical therapy to a case suffering from coronary occlusion would certainly be a mistake. Such misinterpretation does occur, however, and a careful history and a very detailed investigation of the possibilities of diagnosis should always be two vital factors in a consideration of each case.

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Psychosomatic Aspects of Physical Medicine

Herbert T. Kelly, M.D., F.A.C.P.

Implicit in the application of physical medicine is the fact that every sick person has a concomittant somatic and psychologic aspect to his illness. A broader understanding of this interrelationship has a direct bearing on the work of the physical therapist and merits consideration.

It has been estimated that approximately two-thirds of the people who come under a physician's care have significant psychosomatic problems; that is, physical stress is either specifically related in etiology to emotional conflicts, or is aggravated or perpetuated by frustration and tension. Even in surgical cases this percentage is relatively high. In a recent psychiatric study of 61 consecutive appendectomy admissions, 49 per cent were found to be neurotic and 28 per cent of the 61 had no inflammation of the appendix.[1] If this one example of a supposedly emergency illness illustrates the need for psychosomatic guidance, then how much more is this probably true in chronic disease, where the patient's attitude is even more of a factor in treatment?

It is common knowledge that stress and strain are associated with a variety of physical reactions. Diarrhea and excessive sweating often are associated with an anxiety-provoking situation. In this manner the body prepares for fight or flight. Biochemical changes occur. However, normally, after energy has been released in terms of action or speech, the body returns to its former resting condition. Maladjusted and immature persons, on the other hand, are unable to release their feelings through these channels, and the resultant suspended energy influences vascular, muscular, secretory and endocrine reactions by means of the autonomic nervous system.

Studies on the emotions and gastric function offer evidence of this state. It has been observed in a fistulous subject that an attitude of defeat is physiologically expressed in hypoactivity of the stomach. The mucous membrane becomes pale and flat and there is a diminution in the secretion of acid and in muscular activity. These signs result from fear, sadness and a tendency to flight—withdrawal from, or rejection of, a situation, rather than coming to grips with it. Anger and resentment bring about opposite changes—hyperactivity—in which the stomach is physiologically prepared for food even if the desire for it is not present. In this instance, the stomach is turgid, hyperemic and hypermotile, strikingly similar to the appearance of the full-blown ulcer syndrome.[2] Similar biochemical and physiologic changes may take place in any organ of the body, if tension is not released through the normal outlet of the voluntary nervous system.

Another specific relation between the psyche and the soma is evidenced in hysterical patients who use temporary paralysis or blindness to solve some unbearable situation. Long-standing attitudes and desires may result in incidental physical conditions. Here conflict is resolved through some kind of activity which in turn leads to deformity, illness or accidents.[3] Obesity is a common example. Probably 90 per cent of overweight is due to emotional maladjustment, usually stemming from insecurity in childhood. The obese individual gains a false sense of security through oral gratification. Food is substituted for mature social and sexual satisfactions. Persons who are prone to accidents—particularly the fracture group—also come in this category. Outwardly, one would say that the "look normal." However, they may show a jerky, restless kind of tension with a disposition toward hurling themselves into ill-considered action. This is a kind of self-punishment. They are defensive about personal feelings and have a tendency toward self-reliance. When their hostility is aroused, their self-esteem is injured, or pressure from authority becomes too great, they "meet with" accidents.

Two indirect psychosomatic reactions are possible also. First, a psychologic trauma may happen to coincide with a physical disorder. If a sick person, for instance, receives unfavorable news, he may have a severe relapse or his illness may be prolonged. Thus, frustration, brought about by disease, is combined with frustration brought about by emotional conflict, and the two together may precipitate or aggravate a physical problem.[3]

Secondly, physical treatment may have a significant conscious or unconscious psychologic meaning to the patient. Sometimes it serves to fixate a particular neurosis. The use of drugs may lead to

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addiction; an operation may so enhance dependency needs that chronic invalidism is incurred; or massage may serve to rub in as many symptoms as are rubbed out. In most cases, physical procedures bring about psychologic reactions which have definite therapeutic value. In the realm of physical medicine, many of these effects are plainly apparent.

In addition to its physical objectives, occupational therapy is a well-known means of psychologic orientation and restoration. It is not only a recreation or diversion, but a directive toward purposeful activity, a method of overcoming insecurity and introspection. It serves also to sublimate aggressive tendencies.[4] In every instance the task should be fitted to the individual rather than the individual to the task.

Exercise also has psychosomatic connotations. The hazards of bed rest in medical, surgical and psychiatic convalescence are now being given considerable emphasis. Early ambulation and guided muscular activity may preclude emotional stagnation as well as avoiding physical disturbances in bones, muscles, joints and circulation, resulting from inactivity.[4]

The physiologic effects of hydrotherapy are probably dependent upon changes in skin temperature and circulation. In tension states or anxiety neuroses, continuous tubs and wet packs produce relaxation, thus lessening tension and inducing sleep. Psychologically this form of treatment is valuable because it gives the patient a sense of security.[5] Lying in a tub of water or an enclosed pack produces a feeling of warmth—a feeling not unlike that experienced in infancy and even previous to this, in the womb before birth.

Massage has numerous psychosomatic connotations. General body massage usually has a sedative effect, probably related to its influence on the nervous system and on local nerves.[6] Massage definitely is more beneficial if the patient relaxes, thereby breaking up muscular habit patterns. Perhaps the therapist can help in the attainment of "progressive relaxation"[7] through explanation and suggestion.

To the work of physical medicine, the therapist brings his expert knowledge and technical skills. However, in undertaking to alleviate the patient's illness and restore him to health, he may overlook one of the most important aspects of the treatment —his participation with the patient in a joint experience. This is a very potent agent in the management of psychosomatic disorders. Therefore advance information from the referring physician concerning the personality of the patient may serve a very useful purpose in handling the therapist-patient relationship.

Certain personality profiles are apparent in various disorders. Three examples, obesity, accident proneness and the ulcer syndrome already have been cited. Probing more deeply into the psychogenesis of ulcers, the stomach or duodenum, via autonomic nervous system imbalance, vainly attempts to compensate physically for psychic anxieties. This syndrome develops from an unconscious longing for dependence and at the same time an assertive reaction toward independence. The fundamental pattern is initiated in early childhood, where security is sought through striving to conform to over-exacting parental standards. Creative urges have to be repressed in order to do what is expected by the parents, and resentment inevitably occurs.[8] Recent personality studies on three ulcer patients revealed in each instance a basic inferiority due to fear of sexual drives. Childhood restrictions in this area are evident and all aggressiveness has been transferred to the intellectual level. In effect, the gastrointestinal tract has taken over the function of expressing libidinal drives. Massage usually is contraindicated in active ulcer cases.[9] However, the physical therapist may have access to these patients for some other disturbance when the ulcer is in the benign stage.

Since diathermy often is used in colitis and constipation, it may be of interest to the therapist that the lower end of the gastrointestinal tract is especially adapted to express retentive and giving tendencies in the individual, as opposed to the upper part which is symbolic of receptive trends. Chronic constipation is often a reaction against the obligation to give, or it may signify anxiety about offending. In chronic diarrhea and ulcerative colitis, the strong emotional value attached to the feces in childhood may never have been sufficiently given up. And in the event of prolonged guilt or anxiety, there is a reversion to this infantile pattern.[10]

Occupational therapy often is justifiably indicated in cases of hypertensive cardiovascular disease because it helps channelize pent-up aggressions through action. These patients usually have a lifelong conflict in the field of authority. Their parents lived their lives for them. However, their problem is not so much in refusal to take orders as in the fear of criticism. They are afraid of falling short of expectations. Often they feel that criticism by their superiors is unjust. Yet they cannot express resentment. They have an outward desire to please, to make themselves liked and admired—a dependency need due to inability in earlier years to break away from the mother. But inwardly they are rebellious. The damming up of inner resentment is concomittant with elevation of blood pressure due to the tension set up. This is another illustration of the physical counterpart of emotional anxiety and how it may lead to physiologic stress.

One of the most frequently encountered diseases

in physical medicine is the rheumatic group. Present knowledge concerning the emotional component of rheumatoid arthritis may be summed up as follows. It is postulated that there is "a general predisposing personality factor which develops as the result of excessively restricting parental (predominantly maternal) attitudes. In the little child the most primitive expression of frustration is random motor discharge. If, through punitive measures, this discharge becomes associated with fear and guilt, in later life, whenever fear and guilt arise, there results a psychologic straight-jacket. These patients try to achieve an equilibrium between aggressive impulses and control. They learn to discharge aggression through muscle activity — hard work, sports, gardening, actively heading the house. They learn also to relieve the restrictive influence of the conscience by serving others. Whenever this equilibrium is disturbed by specific events which interrupt their adaptive mode of discharging hostility and relieving guilt, the chronic inhibited aggression leads to increased muscle tonus and in some way to arthritis."[11] These factors are commonly found in patients who do not suffer from arthritis also, and additional etiologic factors are undoubtedly present. The nature of these factors is probably somatic—that is, inherited, traumatic or infectious. However, an aggravation of the psychologic conflict situation is probably conducive to relapses, whereas amelioration leads to remissions.

Recently the clinical entity of psychogenic rheumatism has been described. As many as 20 per cent of patients with musculo-skeletal complaints have this type of disturbance. It should be clearly differentiated from the primary type of fibrositis, which it resembles upon first inspection of the patient. In the true form the chief complaints are specific, the patient's joints hurt and feel stiff. In the psychogenic type, the patient cannot describe his symptoms clearly. This kind of patient is usually fearful, resistant and "burning up" with resentment. He has a "touch-me-not" reaction upon examination. The effect of rest, exercise, applied heat and massage often are valueless, the patient stating he feels worse after treatment. In true fibrositis, the patient is cooperative and consistent. Prolonged rest makes him worse. Exercise, heat and massage offer at least temporary relief. In psychogenic rheumatism, physical procedures are not generally advised, except as diagnostic or therapeutic tests, because such treatments tend to fix more firmly in the patient's consciousness the belief that organic involvement exists, when the cure actually lies in emotional re-education.[12]

It is thought that a more successful therapist-patient relationship may be attained through an appreciation of the personality profiles which accompany certain disorders. Furthermore, "unless the therapist is aware of the personal implications of his skills and is ever alert to the ways in which patients relate themselves to him, he may defeat his own purpose and fail to bring to the patient the relief and therapeutic helps which his training and experience make him eminently capable of administering."[4]

The phenomenon of transference has extensive implications in motivation and performance. The therapist's skill in evoking and utilizing this relationship may be of vital importance. The patient may look upon the therapist as a parent or love object. On one hand this may increase his dependency needs and the patient will then be reluctant to terminate treatment. On the other hand, he may develop an intense dislike for the therapist due to resentment or hostility. In a recent case, the patient, a married woman presenting a typical hysteroid picture, was advised to have massage for intercostal neuralgia. Early in childhood she felt rejected by her mother. Her needs for maternal love and affection had gone unfulfilled. Because of this, she herself has partly rejected the feminine role in life, although she actually hates this reaction in herself. She is not comfortable in the presence of men. She feels they do not like her and her own fear of them is a projection of this. Her marital adjustment has been unsatisfactory. She lost one child at birth and the other at the age of 10 months from injuries sustained in an accident. Thus, her failure as a mother has further decreased her potential capacities for mature feminine adjustment. This woman was highly resistant to the male therapist, although his technic and manner were excellent. She repeatedly told the physician and the nurse she did not want massage. If visitors were present upon the arrival of the therapist, she would jokingly suggest that they have the treatment instead of herself, thereby attempting to reject it. The results of therapy were variable since she did not learn to relax. With her background of hostility toward men, it is obvious why this resistance was encountered. The value of working closely with the referring physician is evident. Both should know the patient's individual problems.

The fact that the therapist necessarily manipulates the patient by using his hands is of primary significance in many cases. Massage, for instance, may have a highly charged personal meaning to the patient through displacement of erotic centers. This pattern reaction is capable of relieving or accentuating pain as much as 30 per cent, depending upon the individual. In cases of true primary fibrositis, as stated above, physical therapy is almost always of value. However, if it is complicated by disturbing emotional problems, beneficial results may be

variable or even negated altogether. A married woman, aged 43, had been suffering from some form of rheumatic disease since early childhood. At the age of three or four, she would awaken in the night with pain. Her tonsils were taken out, but when ten or eleven, she had some form of rheumatism, called "growing pains" by members of her family. Her mother was almost too sympathetic, the patient stated. At the age of 13 she contracted inflammatory rheumatism and was in bed for almost two months. She has gone to many specialists all her life but never has attained any lasting relief. About six years ago she went to a female physical therapist, but the pain became worse after massage. Consequently, after three or four such episodes she did not return. Recently this patient suffered with several attacks of grippe, followed by another severe attack of lumbago. Massage was recommended, this time given by a male therapist. Her reactions were no different. She felt as if she had been bruised all over and ached "from head to toe." This patient has a history of chronic resentment and hostility both to her family and probably to the many physicians to whom she has gone. Perhaps massage, evoking fear and combined with the activation of erotic centers, may represent further defeat to an already wounded ego, thereby lowering the pain threshold. Simple psychotherapy by the physician in the form of reassurance and explanation of psychosomatic mechanisms often sufficiently prepares the patient to accept an indicated treatment.

Security and confidence that come with routine experience allow the therapist to carry out procedures smoothly and deftly. Care in draping patients relieves the patient of embarrassment. Social conversations, particularly about the personal experiences of the therapist or about controversial social issues, are often extremely harmful. This does not mean that the therapist should attempt instead to probe for evidence of the patient's emotional difficulties, for such is clearly not within his realm. Also, an unwittingly conceived remark or question may bring forth undesirable reactions in the patient, thereby diminishing the therapeutic value of the treatment. Attitudes of earnestness, honesty and cooperation do much to establish rapport and maintain the desired goal of professional relationships.

SUMMARY AND CONCLUSIONS

A psychosomatic concept in physical medicine includes an appreciation of the psychogenesis of various somatic disturbances and the concomittant anxiety and tension which accompany any type of physical distress. Furthermore, a comprehension of the psychologic implications of physical treatment and the significance of the therapist-patient relationship may provide the means for more effective therapeutic management.

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Effective November 1, 1948, the price of a year's subscription to THE PHYSICAL THERAPY REVIEW was raised to $6.00 in the United States; $6.75 outside the United States. All subscriptions for the period beginning November 1, 1948, whether new or renewal, must be paid for at the new rate. Single copies are now 75c. Send your subscription to the AMERICAN PHYSICAL THERAPY ASSOCIATION, 1790 Broadway, New York 19, New York. Changes in address also should be sent to this office.

Effects of Massage

in Delaying Atrophy in Denervated Skeletal Muscle of the Dog*

Elizabeth C. Wood**, A.M., A. J. Kosman***, Ph.D., and S. L. Osborne**, Ph.D.

In spite of the fact that massage, either alone or in combination with other types of physical therapy, is used extensively in the treatment of paralyzed muscles, there is available in the medical literature little information concerning its effectiveness. Conflicting observations of various investigators on the effects of massage upon denervated muscle prompted this further study.

Langley and Hashimoto[1] and Hartman and Blatz[2] observed only slight or questionable benefits from massage in the treatment of denervated muscles in the rabbit. Chor and associates[3] concluded from their work on the gastrocnemius muscles of Macacus rhesus monkeys that massage did not decrease the rate of weight loss after denervation, but did enable the muscles on limbs which had been immobilized to return to normal rapidly on reinnervation. There were no appreciable differences between treated (massage and passive motion) denervated muscle on immobilized limbs and untreated denervated muscle on limbs which were not immobilized. Suskind, Hajek and Hines[4] showed that massage applied to the gastrocnemius muscle of the cat was effective in retarding strength loss of the treated muscle, although its effect upon muscle weight loss was slight.

In this study we tried to see whether the results of Suskind, Hajek and Hines could be confirmed in another species and in muscles undergoing longer periods of denervation. The muscle chosen for study was the anterior tibial of the dog.

Procedure

1. Weights and strengths of the anterior tibial muscles of a large number (32) of normal dogs were obtained, to determine whether or not there are any significant differences between right and left anterior tibial muscles.
2. Weights and strengths of the anterior tibial muscles of fourteen dogs with bilateral section of the sciatic nerves were obtained, 8-34 weeks after sectioning, to determine whether or not the rates of weight and strength loss following denervation are essentially the same for both muscles.
3. Weights and strengths of anterior tibial muscles of fourteen dogs with bilateral section of the sciatic nerves were obtained, in which one side was treated by massage started the day following sectioning of the nerves. The treatment consisted of one ten-minute treatment period of stroking and kneading massage to the whole limb (about ⅓ stroking to ⅔ kneading) each day for the duration of the experiment, the rate of massage being between 25 and 30 strokes per minute. There was no immobilization of either treated or untreated limb. The animals were sacrificed at intervals from 8-34 weeks following denervation.

In no instance was there any reinnervation of the muscles after the sectioning of the sciatic nerves.

The statistical significance of the experimental data was determined by the method of paired comparisons.

Results

1. In normal animals there is good correlation with no significant differences in weights and strengths between left and right anterior tibial muscles. (Table I)

Table I: Weights and strengths of normal right and left anterior tibial muscles

No. of animals	Mean weight (grams)	Mean tension (grams)
32	Right 7.01 Left 6.94 Correlation coefficient = 0.96 (high) t — 0.78 (difference between means not significant)	Right 3989 Left 3878 Correlation coefficient = 0.83 (good) t — 1.13 (difference between means not significant)

2. Following denervation the rate of atrophy for both muscles is essentially the same, as indicated by both weight and strength losses. (Table II)

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Table II: Weights and strengths of untreated denervated right and left anterior tibial muscles

No. of animals	Mean weight (grams)		Mean tension (grams)	
	Right	Left	Right	Left
14	2.08	2.01	306	318
	Correlation coefficient = 0.84 (good) t — 1.08 (difference between means not significant)		Correlation coefficient = 0.91 (good) t — 0.76 (difference between means not significant)	

3. There are no significant differences in weight or strength between treated and untreated muscles. (Table III)

Table III: Weights and strengths of massaged and untreated denervated anterior tibial muscles

No. of animals	Mean weight (grams)		Mean tension (grams)	
	Treated	Untreated	Treated	Untreated
14	2.65	2.60	267.5	277.1
	t — 0.33 (difference between means not significant)		t — 0.12 (difference between means not significant)	

CONCLUSIONS

From the figures in Tables I and II we may assume that, both at the beginning and the end of the experiment, the right and left anterior muscles would tend to be of the same weight and strength, and that if any significant differences should be found between them it could be attributed to the therapeutic agent used—in this case, massage. That Table III showed no such significant differences indicates that massage was ineffective in delaying atrophy (as measured by both weight and strength losses) for this particular muscle and species.

As a contrast to the experimental work with massage, results from use of another therapeutic agent—electrical stimulation—have shown it to be effective in delaying denervation atrophy in a large number of muscles and species. (References [8–13]) It seems obvious that the use of massage for such a purpose has no value.

SUMMARY

Massage was not effective in delaying loss of weight and strength in experimentally denervated anterior tibial muscles of the dog.

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Physical Therapy in Czechoslovakia

Dorothy Snavely

Physical therapy of a sort has been practiced in Czechoslovakia for hundreds of years. A pamphlet available to tourists and persons interested in receiving treatment at the famous Spa of Karlovy Vary (formerly Carlsbad) gives the following information:

"Karlovy Vary is rightly called a diamond in an emerald frame. It has become an established town in the course of time, and one of the greatest miracles of nature within human knowledge. The wonderful gifts are joined in harmony and are at the service of mankind. The fame which Karlovy Vary enjoys throughout the world is founded on its irreplaceable springs. The town can be proud of its reputation as it would be difficult to discover another resort whose healing possibilities are so manifold. There is no other place that has been so thoroughly examined in respect to natural history, biology and medicine as Karlovy Vary. . . .

"The main success of the healing springs of Karlovy Vary originate in causes without analogy in their influence. This water is formed in the

fiery molten bowels of the earth. The volcanic origin has composed the soluble salts that have a specific physical-chemical composition that cannot be produced artificially.

"The secret powers of Nature at work here created the 'Geyser', symbol of Karlovy Vary. This is a wonderful spectacle of the strongest and hottest of all the springs, it rises to a height of more than 11 feet and has a temperature of 162 degrees Farenheit. There are 18 hot springs in Karlovy Vary the chemical composition of which is more or less the same. Individually the springs differ from 104-162 degrees and therefore in their contents of free carbon dioxide. The chemical reaction varies from alkaline, saline and chlorine; all are from slightly acid to slighrly alkaline.

"Thousands come every year to this beautiful hilly district to forget the cares and turmoil of their daily life, and to seek renewed health and vigor."

We were told that 10,000 Americans came to Karlovy Vary the season before the German occupation.

The pamphlet goes on to describe the medical treatment:

"The latest investigations of balneology apply to the healing waters of the hot springs of Karlovy Vary, and these are to the full advantage of the invalid. From the standpoint of the physician it is most important to follow his advice in taking the Drinking-Cure." (Treatment consists not only of various baths but the drinking of certain quantities of the water at specific hours of the day and drawn from stated sources where the exact temperature is controlled.)

The folder continues, describing various indications for mud baths, enterocleaner, under-water massage, electric ray treatment and sun ray. Last but not least it states "There is also a Zander Institute for Swedish Drill and Gymnastics."

There are many such spas in Czechoslovakia and since practically all of the physical therapy has been practiced in these institutions it is not difficult to appreciate that there is much to be accomplished in this field before there will be an understanding of physical therapy as we know it in the United States.

With the Nazi occupation of Czechoslovakia in 1939 all universities were closed to the Czech people and these were not reopened until after the liberation in 1945. This, coupled with the fact that 60 per cent of all pre-war Czechoslovak medical practitioners were victims of the war, gives some idea of the tremendous task this Republic faced in 1945 in regard to medical rehabilitation.

A request was sent out early in 1946 by the Czech Ministry of Health for a physical and an occupational therapist to come to Czechoslovakia to help in the establishment of a rehabilitation center where war victims could be treated and where future personnel for Czechoslovakia could receive some training.

The Unitarian Service Committee agreed to send such a "team" to Czechoslovakia and the American Relief for Czechoslovakia agreed to furnish complete departments for both physical and occupational therapy with American equipment.

In May 1947 the Unitarian Physical and Occupational Therapy Team for Czechoslovakia reached the location which had been selected by the Czech Ministry of Health for the first rehabilitation center of Czechoslovakia.

The Statni Ustav pro Dolecovani (State Rehabilitation Center) was located about 50 miles South of Prague in buildings which had been used by the Germans as a "work camp". The main hospital originally had been erected by a private Czech physician as a Tuberculosis bone hospital which was completed just before the occupation (Fig. 1). The Germans remodelled and built several new sections including a huge gymnasium, two swimming pools, and a building which housed a considerable amount of heavy machinery. There were also about fifty wooden barracks which accommodated some of the 5000 persons taken in at the camp.

Figure 1.

After the liberation these buildings were taken over by the Czech Government, repairs and alterations were made and this institution under the Ministry of Health was opened as the first place in Czechoslovakia to introduce physical medicine as it is known in the United States.

On arriving at Kladruby u Vlasime we were shown two of the wooden barracks, previously used for physical therapy, one of which contained many small rooms each fitted up with a different type of bath and one large room in which there were ten baths including many rather strange home-

made affairs. We were informed that this was to be kept as a physical therapy department, that they would be willing to make some alterations but would appreciate it if we used as many of the baths as possible. (Fig. 2).

Figure 2.

Fortunately, circumstances were such that ultimately the physical therapy department (Fig. 3) was established in a wing of the main hospital and, with the arrival of the American equipment, it was agreed that for the purposes of a rehabilitation center the baths would not be necessary. The two barracks were turned into storage spaces.

In the past the physical therapy in Czecho-Slovak Republic has consisted mainly of hydrotherapy, massage and electrotherapy. There has been a considerable amount of ionization and galvanization given and exercises have consisted almost entirely of passive motion. There is a tendency in Czechoslovakia for the various physical therapy modalities to be given by different individuals. In other words, a pathological condition is not treated as a whole by one person; instead the physical therapist administers one modality and if a patient should require several forms of treatment, let us say diathermy, massage and exercises, he is taken care of by more than one attendant. This of course is undesirable as in many cases the personnel become mechanical, turning on and off machines, and so forth, without any thought of the pathology or the real purpose of treatment.

Many of us remember a few years back when every patient referred to physical therapy was sent along for "some massage". This is true today in Czechoslovakia and is one of the first ideas which we at Kladruby u Vlasime tried to correct. The policy there was to hold a staff conference for each new patient who was admitted, these conferences being attended by a representative of each department, the physician, the nurse, physical therapist, occupational therapist, social worker and physical education instructor. Histories were gone over carefully, examinations were made and orders were given for treatment or services to be rendered in each department. At these meetings stress was placed on active exercises instead of passive and the question "Why?" on different orders resulted in a proper prescription as well as a means of educating all present.

In the physical therapy department itself an effort was made to explain the conditions of the various patients and where necessary to review the anatomy of the surrounding areas while describing the reasons why certain exercises should be given and others definitely were contraindicated. At the time our project was terminated, on December 31, 1947, we believe that the entire staff at Kladruby u Vlasime had a better understanding of the services offered by physical medicine.

During the month of November the Ministry of Health planned a tour of lectures to be given by the team in various cities throughout the Republic. Some of these lectures were attended by as many as 200 physicians, nurses and social workers. It was extremely gratifying to realize the extent of the interest which is present in Czechoslovakia and to talk personally to many of the people who will be the future leaders of physical and occupational therapy in Czechoslovakia.

Figure 3.

The physicians in Czechoslovakia are now becoming aware of the possibilities of good physical medicine and one of the first steps which they have taken to improve the conditions there is to close the school which formerly trained the personnel for physical therapy. Plans are being worked out now for new improved courses in physical therapy and a number of physicians are coming to the

United States to study physical medicine and rehabilitation. It is also hoped that candidates will be sent to study in our physical therapy schools. It is planned by the Ministry of Health that each County Hospital ultimately will have a rehabilitation department.

Insurance, which is nationalized in Czechoslovakia, is very much interested in physical and occupational therapy and one of their accident hospitals already has started erecting a building to house these two departments.

One of the spas in Northern Bohemia recently has introduced American methods of treatment for poliomyelitis. This institution is called the Warm Springs of Czechoslovakia and the medical director, who was in the United States a year ago, is endeavoring to train the personnel in the proper administration of individual muscle reeducation, a completely new idea in Czechoslovakia.

Several of the larger general hospitals throughout the Republic have begun to realize the need of this important adjunct to the medical field and are making plans to improve their services by establishing departments of physical therapy. Schools and hospitals for crippled children are also making an effort to introduce more recent methods of physical therapy. However, the lack of properly trained personnel is a serious handicap and it will be several years before physical therapy will reach the high level on which it is practiced in the United States.

The Czech people are particularly anxious to get and to study as many American books and periodicals as possible which pertain to medical subjects. During the occupation all English books were destroyed by the Germans. Since dollars or pounds must be used for most purchases outside the Republic it is practically impossible for the majority of the people to obtain the books for which they long.

The Unitarian Physical and Occupational Therapy Team for Czechoslovakia left a small library of books and periodicals relative to both fields and it is hoped that additions will be made from time to time.

In September a British physical and occupational therapist arrived in Czecho-Slovak Republic to establish departments in the Accident Hospital of the Bata factory.

With the possible arrival of more British and American therapists and concerted effort they are making to improve professional standards we should expect to hear of rapid strides in physical medicine in this most progressive Republic of Middle Europe.

A New Type of Electrode for Direct Current and Electrical Stimulation of Muscle

Lulu Boerner, R.N., R.P.T.

For a great many years the electrodes used for the application of direct current therapy and electrical stimulation of muscles have been quite similar in construction. They have differed only in the materials used. One type of electrode consists of a sheet of metal, somewhat pliable, placed between several layers of asbestos and enclosed in a linen cover. The electrode usually is approximately ¼" in thickness, variable in size and shape. Another type of electrode uses orthopedic felt of ⅜" thickness which is sewn to a sheet of perforated metal. Each manufacturer has had his own particular type of connector to attach the patient's treatment cord from the generator to the electrode. Some electrodes have a permanent rubber back attached, while others provide a separate rubber cover to insulate that part of the electrode not in contact with the patient's skin. This in general has been the pattern followed for many years. It has always been recognized that these electrodes to be effective must be highly absorbent and able to retain moisture over a period of an hour as a minimum. These electrodes fulfilled these requirements but their effective life often was short and their surface anything but smooth for good coapitation. Moreover, they never can be thoroughly cleaned. Their promiscuous use on all types of patients does not make an esthetic appeal.

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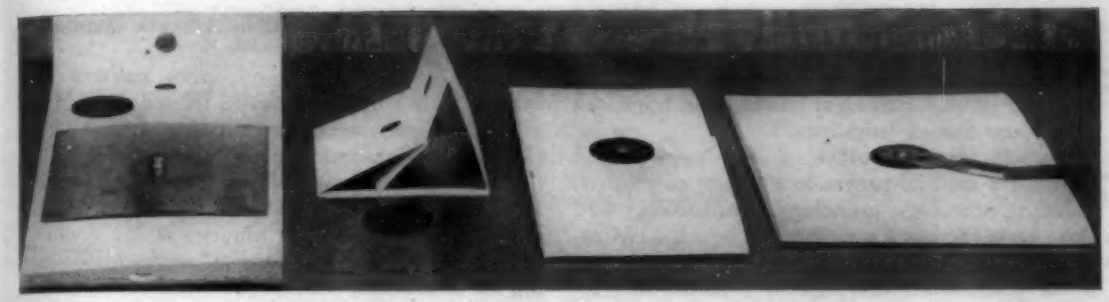

Figure 1. From left to right—metal insert applied to paper; metal insert folded inside of paper; paper completely enclosing the metal insert; electrode fastener applied and ready for use.

For several months, we have successfully experimented with a new type of electrode illustrated in Figure 1. The electrode consists of: (1) a metal insert made of sheet brass, 0.006" thick and heavily chrome plated. The metal insert is extremely pliable and can be made to follow any body contour readily. (2) Insert covers shaped from a type of paper which is not readily macerated by water but which does retain a sufficient degree of moisture for all treatment requirements. The metal insert is enclosed within the paper cover and both are held together by means of a metal fastener as illustrated. The electrode is then placed in the necessary solution and when thoroughly saturated is removed. The excess moisture is drained off and the electrode is ready for application to the patient. The electrode is held in place on the extremities by means of a rubber bandage as shown in Figure 2. The usual technic is used in other situations.

The advantages of this type of electrode are:

1. Sanitary standards not before possible can be maintained. The paper covers can be used for the same patient for several treatments or the paper can be replaced at each treatment as desired.

2. The smooth velod-like surface of the paper insures an exceptionally fine skin-electrode contact. This means less skin irritation due to uneven or irregular surface contact. Erythema is barely perceptible after treatment.

Figure 2. Electrodes applied to stimulate flexor muscles of the forearm.

3. There is the advantage of a minimum space between metal insert and the skin of the patient. This permits a very even current dispersion over the entire area treated.

4. The electrode is very quickly hydrated and will retain moisture for long periods of time.

5. They are easy to apply, cheap, and will fit any contour with ease.

Silas Weir Mitchell (1829-1914) of Philadelphia. Dr. Mitchell graduated from Jefferson Medical College in 1850 and spent the following year studying in Paris, where he came under the influence of Claude Bernard. His father was a physician, as were several other ancestors. With Surg. Gen. William A. Hammond in 1859 Mitchell investigated the arrow poisons corroval and vao and was the first, after Felice Fontana and Bonaparte, to investigate serpent venoms. In 1864 Mitchell, Morehouse and Keen published an important work on gunshot and other injuries of the nerves, which was translated into French and used in the French hospitals during the first world war. This work contains the earliest distinct accounts of ascending neuritis. Mitchell was the first to describe causalgia in 1864, erythromelalgia in 1872-1878 and postparalytic chorea in 1874. Mitchell introduced in 1875 a treatment of nervous disease by prolonged rest in bed, together with optimum feeding, mas-

sage and electricity, which came to be known as the Weir Mitchell treatment, or the "rest cure." His ideas were summarized in a classic monograph, "Fat and Blood," published in 1877 and translated into several foreign languages.

Mitchell was the author of one hundred and seventy-one medical papers on a variety of subjects, including neurology, toxicology, pharmacology and physiology. He was a commanding figure, a charming personality, and combined the high standards of the practitioner, investigator, clinician and research worker. In the world of letters Garrison places Mitchell near Goldsmith and Holmes and not far below Scott and Lamb. He was admired by all who knew him. Among his close friends were Holmes, Osler, Jacobi, Welch, DaCosta, Hammond and Billings.

Mitchell was awarded numerous national and international honors. He was a trustee of the University of Pennsylvania for thirty-five years. His patients came from many states to Philadelphia. He organized the library of the College of Physicians of Philadelphia, which through his efforts became one of the great medical libraries of the country. He contributed to the reform of methods of treating the insane. He, with DaCosta and Gross, founded the Philadelphia Pathological Society. His book "Hugh Wynne, Free Quaker," published in 1897, is one of the best historical novels in American literature.

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THE RESPIRATOR IN THE TREATMENT OF ACUTE POLIOMYELITIS.
DOROTHY GRAVES. (10c)

PHYSICAL THERAPY IN THE TREATMENT OF NEUROSURGICAL CONDITIONS: *With Special Reference to New Electrodiagnostic Measures.*
EDNA L. DILLON. (10c)

PHYSICAL THERAPY MANAGEMENT OF LOWER EXTREMITY AMPUTEES.
PAIGE WEAVER. (10c)

WALKING TRAINING OF THE AMPUTEE: *Some Biochemical Considerations.*
SIGNE BRUNNSTROM. (10c)

BED EXERCISES IN EARLY CONVALESCENCE AND AMBULATION.
NILA K. COVALT, M.D. (10c)

THE PHYSICAL THERAPY REVIEW—*Special Anterior Poliomyelitis Issue.* July-August 1947 (75c)

The magazine contains 11 articles by leading physicians and physical therapists on research and treatment of polio. There are 16 abstracts of articles on polio from current medical journals.

A HISTORY OF THE AMERICAN PHYSICAL THERAPY ASSOCIATION.
IDA M. HAZENHYER. (50c)

An account of the Association's activities and growth from 1921-1946.

THE PHYSICAL THERAPY REVIEW—*Special Cerebral Palsy Issue.* May-June 1948 (75c)

This magazine contains 8 articles by leading physicians and physical therapists on research and treatment of cerebral palsy. There are 5 abstracts of articles on cerebral palsy from current medical journals.

SCHOOLS APPROVED FOR TRAINING PHYSICAL THERAPISTS

By Council on Medical Education and Hospitals of the American Medical Association

Name and Location of School	Medical Director	Technical Director	Entrance Requirements*	Length in Months	Classes Start	Tuition	Certificate, Degree, Diploma
CALIFORNIA							
Children's Hospital, Los Angeles	Samuel S. Mathews	Sarah S. Rogers	a-b-d	14	Sept	$300	Cert. or Degree
College of Medical Evangelists, Los Angeles[1]	F. B. Moor	R. Wm. Berdan	a-b-c-d	12	Sept	$225	Cert. or Degree
University of Southern California, Los Angeles	O. L. Huddleston	Charlotte W. Anderson	a-b-d[2]	12	Sept	$496	Cert. or Degree
University of California Medical School, San Francisco[1]	Frances Baker	Margery Wagner	d-e	12	Sept	$220[4]	Cert. or Degree
Stanford University, Stanford[1] (Palo Alto)	Wm. Northway	Lucille Daniels	a-b-d[2]	12	Jan June	$523.30	Cert. or Degree
COLORADO							
University of Colorado Medical Center, Denver	Harold Dinken	Mary Lawrence	a-b-d	12	Sept	$300	Cert. or Degree
ILLINOIS							
Northwestern University Medical School, Chicago	John S. Coulter	Gertrude Beard	a-b-d	12	Oct	$400	Cert.
IOWA							
State University of Iowa Medical School, Iowa City	W. D. Paul	Olive C. Farr	e	12	Sept	$299	Cert.
KANSAS							
University of Kansas School of Medicine, Kansas City	Donald L. Rose	Lilyan G. Warner & Ruth Monteith	a-b-c[3]	12	Feb Sept	$80[4]	Cert. or Degree
MASSACHUSETTS							
Louve-Boston School of Physical Education, Boston	Howard Moore	Constance K. Greene	H.S.	36	Sept	$500 yr.	Degree
Simmons College, Boston	Wm. T. Green / Arthur L. Watkins	Janet B. Merrill	a-b-d	16-36	Sept	$550	Cert. or Degree
Boston University College of Physical Education for Women: Sargent College, Cambridge 38	Kenneth Christophe	Adelaide McGarrett	H.S.	36	Sept	$435 yr.	Cert. or Degree
MINNESOTA							
University of Minnesota, Minneapolis[1]	Miland E. Knapp	Ruby M. Green	H.S.	36	Oct	$530[4]	Degree
Mayo Clinic, Rochester	Frank H. Krusen	Helen Belknap	a-b-c	12	Jan July	None	Cert.
MISSOURI							
Barnes Hospital, St. Louis		Beatrice F. Schulz	a-b-d	12	Sept	$200	Cert.
St. Louis University School of Nursing, St. Louis[1]	Alexander J. Kotkis	Sr. Mary Imelda	H.S.	36	Jan Sept	$300	Degree
NEW YORK							
Albany Hospital, Albany	John W. Ghormley	Catherine Graham	a-b-d	12	Sept	$250	Cert.
Columbia University, New York City[1]	Wm. B. Snow	Josephine L. Rathbone	a-b-c	1 or 2 yrs	Sept	$450 yr.	Cert. or Degree
New York University School of Education, New York City[1]	George G. Deaver	Elizabeth C. Addoms	a-b-d	12	Sept	$589	Cert. or Degree
NORTH CAROLINA							
Duke University School of Medicine, Durham[1]	Lenox Baker	Helen Kaiser	a-b-d	15	Oct	$300	Cert.
PENNSYLVANIA							
D. T. Watson School of Physical Therapy, Leetsdale[1]	Jessie Wright	Kathryn Kelley	a-b-d	12	Oct	$300	Diploma
Graduate Hospital, University of Pennsylvania, Philadelphia[1]	George M. Piersol	Dorothy Baethke	a-b-e	12	Sept	$300	Cert.
TEXAS							
University of Texas School of Medicine, Galveston	G. W. N. Eggers	Ruby Decker	a-b-d	12	Jan	$143[4]	Cert.
VIRGINIA							
Baruch Center of Physical Medicine of the Medical College of Virginia, Richmond[1]	Walter J. Lee	Susanne Hirt	a-b-c[3]	12	Sept	$351[4]	Cert. or Degree
WISCONSIN							
University of Wisconsin Medical School, Madison[5]	Harry D. Bouman	Margaret Kohll	a-b-c[3]	12	Sept	$120[4]	Cert. or Degree

*Courses are so arranged that any of the entrance requirements will qualify students for training. a = Graduation from accredited school of nursing; b = Graduation from accredited school of physical education; c = Two years of college with science courses; d = Three years of college with science courses; e = Four years of college; H.S. = High School graduation.

[1]Male students are admitted.

[2]High school graduates accepted for a four-year course leading to A.B. degree.

[3]High school graduates accepted for four-year college course.

[4]Nonresidents charged additional fee.

[5]Certificate granted by Children's Hospital Society; degree granted by University of California at Los Angeles.

Editorials and News

Our executive secretary's report of the meeting in London is of great interest to all members of the American Physical Therapy Association. Our contacts as an association are ever-increasing and are no longer confined to this continent. Following the war there have been numerous inquiries from physical therapists in other countries who are eager to visit, study or work in the United States. Consequently, questions of exchange, acceptance of credentials, reciprocity of memberships, etc., have arisen. Investigation and study of these problems has been proceeding under the direction of the national executive committee. For the purpose of future discussions and decisions we should be alert to developments in this direction.

At the meeting in London, the formation of an international federation was discussed. More information will be forthcoming which will help us to form opinions regarding its desirability. Decision regarding participation by the American Physical Therapy Association in such a federation will be given thorough and thoughtful consideration.

In our present world, it seems that cooperative action with groups of other countries is desirable. In working together for the development of physical therapy, we may discover some other common interests. If we can contribute in any degree to international understanding, we should be ready and eager to do so.

Obituaries

Frank H. Ewerhardt, M.D., 1877-1948

Dr. Frank H. Ewerhardt, Assistant Professor Emeritis of Physical Therapy at Washington University, died in St. Louis on October 15, 1948. Dr. Ewerhardt obtained his medical degree from Washington University Medical School in 1910. He was appointed assistant in the Anatomy Department in 1913 and was a member of the faculty of that institution until his retirement on July 1st of this year.

Dr. Ewerhardt was Medical Director of the School of Physical Therapy at Barnes Hospital, St. Louis, Missouri, from the date of its acceptance by the American Medical Association in 1942 until his death.

Samuel M. Henshaw, 1895-1948

Mr. Samuel M. Henshaw, a director of the American Physical Therapy Association, died suddenly on October 3, 1948 at his home, 108 West Albemarle Avenue, Lansdowne, Pennsylvania.

Mr. Henshaw had a serious cardiac condition for some time but nevertheless worked tirelessly for physical therapy and the Association. He has been a member of the Association since 1933.

In the Pennsylvania Physical Therapy Association, Inc., he served as vice-president and was elected president in 1946. At the time of his death he was technical director of the Department of Physical Medicine at the University Hospital, Philadelphia.

The Association and the Pennsylvania Physical Therapy Association, Inc., have lost a valued member.

He is survived by his wife, Mrs. Mary Henshaw.

Incidence of Poliomyelitis

There has been a high incidence of poliomyelitis in 1948. According to the United States Public Health Service, there were 1,208 cases of infantile paralysis reported during the week ended October 9th, 1948. The total for 1948 to date is 20,387 as compared with 8,442 for the same period in 1947 and 20,685 for the same period in 1946. North Carolina, California and Texas have had an unusual number of cases.

Chartered Society of Physiotherapy Annual Congress

At the Annual Congress of the Chartered Society of Physiotherapy, held in London, September 22-25, 1948, there were over a hundred overseas visitors representing fourteen countries — Australia, Belgium, Canada, Denmark, Finland, France, Germany, Great Britain, Holland, India, Norway, South Africa, Sweden and the United States. The Chartered Society of Physiotherapy originated in 1894 and was incorporated in 1900. A Royal Charter was granted in 1920. This year for the first time in the history of the Society the Annual Congress was international in character.

In addition to an excellent scientific program special social functions were planned to mark the occasion. A reception to welcome the overseas visitors was held in Apothecaries' Hall. The Hall was originally the hospice or guest house of the Black Friars Priory and was purchased by the Society of Apothecaries in 1632. This is an honorary medical society. The Hall was destroyed by the Great Fire of 1666 but it was rebuilt in 1670 and is one of the few livery halls which survived the 1940-41 bombing.

Reception at County Hall, Westminster, held by the Chairman of the London County Council. This hall is the administrative center of the County of London. It is full of treasures and although on the Bank of the Thames directly across from the Parliament Buildings, it was not damaged by bombing.

Lunch at the Cafe Royal. The Rt. Hon. Lord Horder received the guests.

Evening Party to visitors from abroad, given by the London Branch of the Chartered Society of Physiotherapy.

Reception by the Council of the Society at Guild Hall by courtesy of the Lord Mayor and Corporation of London. The Lord Mayor and Lady Mayoress received the guests.

The Civic life of the City of London centered around the Guild Hall for more than a thousand years and portions of the present building date back to the early years of the 15th century when a new Guild Hall was erected. The Great Hall was completed in 1940 and among the benefactors who contributed toward the expenses was the far-famed Richard Whittington, Lord Mayor of Londoun Town. The Guild Hall did not escape entirely unscathed in the Great Fire of 1666 nor in the recent war. Its walls and monuments are battered and scarred; its stained glass windows are gone and the Hall itself is protected from the weather by a temporary roof. It is still the center of civic activity and the Common Council, owing to destruction of its own chamber, now meets in Guild Hall.

Service in Westminster Abbey. A special section of this historic church was reserved for members of the Society and guests. The Dean made special mention of the Society and its work in his sermon. About 500 attended.

Prior to the Conference visits were made by the executive secretary to Brompton Hospital which is devoted to chest work; London Hospital to visit a training school; Queen Mary's Hospital, Rochampton, an amputee center; Hospital for Sick Children; and Egham, a rehabilitation center for the injured workman.

International Association—The main purpose of the Congress was to discuss and formulate plans for an international association of physical therapists. In June 1948 the American Physical Therapy Association heard for the first time of an "International Federation of Masso-kinesitherapists and Physiotherapists". The executive secretary was instructed to find out more about this organization since their president and secretary had written requesting that we join with them rather than set up a new organization.

In 1937 a congress of French associations was held in Paris. Representatives from other countries were invited and plans for the Federation initiated. A second congress was held in Brussels and founded the Comete Internationale Permanet des Congres de Mass. Kinesitherapee de Podologie and D'Auxiliaries Medican or International Federation of Physiotherapists, Chiropodists and Auxiliary Medical Workers. The final congress before the war was held in Stuttgart, Germany. The countries now participating in the Federation are France, Belgium, Luxembourg, Switzerland and Holland. As the original name implied the Federation was not primarily for physical therapy or physical therapists. It also was learned that there were three associations in France and a similar number in Belgium. When the Federation learned through the REVIEW and the Chartered Society Bulletin that an international association of physical therapists was to be discussed they arranged to separate the organizations of physical therapists and chiropodists. However, Mr. Niutgen of Holland, President of the Federation, stated, "The chiropodists are united in an International Federation of Chiropodists and two federations have some kind of cooperation." In an invitation to join with them they offered to choose a new board so that all the associations could be represented on the council and to dissolve cooperation between the chiropodists and the physiotherapists and to agree to all changes in the organization and aims of the Federation.

The delegates present for the most part had never heard of the Federation and had no authority to

accept or reject the Federation's invitation. It was further brought out that in Belgium the three groups represented two schools which are state approved and a Society of Kinesitherapee. The latter alone is a member of the International Federation. Its members do not hold a state approved certificate.

It was felt by the delegates not connected with the International Federation that any international association must be composed of but one association from each country and that association be recognized as officially representing the qualified physical therapists in that country. This is the policy followed by the International Nurses Association.

It was felt that the invitation of the Federation would have to be taken by the delegates to their associations for acceptance or rejection before any further steps could be taken. A provisional committee was proposed and duly elected. The Chartered Society offered the services of its secretary, Miss Nielson, which was accepted.

The committee:

Mildred Elson, United States, *Chairman*
Miss Bristow, Great Britain
Miss De Haas, Holland
Mr. Nicolle, France
Mrs. Coleridge, Sweden

The committee is to send out a summary of the discussions, a copy of the by-laws of the International Federation and Mr. Niutgen's speech of invitation in order that each association may be fully informed about the Federation. A mail vote will be taken on the Federation invitation. Future work of the committee will be determined after the results on the above are known.

—MILDRED ELSON

Chapter Activities

Maine Chapter

Recently the Physical and Occupational Therapy groups attended a meeting of the Orthopedic Council of the Maine Medical Association held at Maine General Hospital, Portland. Dr. Thomas Martin, Chief of the Orthopedic Service, led discussions on "Epiphyseal Fractures". Papers were read by doctors Leo McDermott and William Casey. An institute on Cerebral Palsy was held at the Hyde Memorial Home for Crippled Children in September. This institute was for interested parents and professional personnel of social agencies. Dr. McDermott of Portland, Maine spoke on cerebral palsy, and Miss Brown, consultant with the National Society for Crippled Children and Adults, Inc. demonstrated the new techniques in training of cerebral palsies.

North Carolina Chapter

The chief topic of discussion has been that of polio. From the beginning of 1948, the Baptist Hospital has not been without at least 2 or 3 cases of polio. As months passed on, this number has been increased.

A polio team consisting of Dr. Philip Stimson, Dr. Jessie Wright, Catherine Fletcher, orthopedic nurse, Mary Haskell of the *American Physical Therapy Association,* Mariam Jacobs, physical therapist, and Lucy Blair, of the Joint Orthopedic Nursing Advisory Service, visited the Baptist Hospital the first week in August and gave demonstrations in the amphitheater of the Medical School for the benefit of the doctors, medical students, nurses, and physical therapists from the county.

Washington State Chapter

The October meeting of the Washington State Chapter will have as guest speaker, Dr. Herbert Coe who will speak on "Hemangiomata". The following programs will be: November, Rehabilitation symposium; December, Annual Christmas party; January, Peripheral Vascular Diseases and Their Treatment; February, Panel Discussion of Allied Fields; March, Post Operative Knees; April, Annual Business Meeting; May, Joint Occupational and Physical Therapy meeting; June, Meeting of Washington, Oregon, and British Columbia Chapters.

We were all saddened by the death of Dr. H. J. Wycoff, Dr. Wycoff contributed greatly to the State spastic program.

West Virginia Chapter

The West Virginia chapter held their fall meeting in Huntington, West Virginia. Dr. Francis A. Scott, orthopedist, discussed "Low Back Pain" and "Intervertebral Discs."

The physical therapists at Marmet Hospital, Marmet, West Virginia, Mrs. Hazel Quinn and Mary McKnight have been lecturing to lay people on the technique of application of hot packs and also pointing out common weaknesses often found.

The members of the West Virginia chapter have been making many requested talks to various organizations. Kay Blair, physical therapist in Huntington recently spoke to a group of the St. Mary hospital nurses. Nancy Sehmann, physical therapist consultant for West Virginia has spoken to a church group, Parent, Teachers Association, and will speak to a sorority on Cerebral Palsy. A film on Cerebral Palsy was shown for each group.

School Notes

Northwestern University Medical School—Graduation exercises for the 27th Class of Physical Therapy students were held at Thorne Hall, September 25, 1948. Mr. Howard A. Carter, Secretary of the Council on Physical Medicine of the American Medical Association, gave the graduating address. His subject was "Quackery in Physical Medicine." Dr. John S. Coulter presented the class with their certificates. The Northwestern Physical Therapy Alumni Association gave a dinner in their honor following the exercises.

Personals

• To Mary S. Lawrence goes the distinction of being the first physical therapy graduate student to complete the requirements for the Master of Science degree in Physical Therapy at Medical College of Virginia. Miss Lawrence took her oral examination on June 4th before a committee composed of Drs. Ernst Fischer, Ellen N. Duvall, W. J. Lee, Ebbe Hoff, H. L. Osterud, Frank L. Apperly and E. H. Ingersoll. Dr. Fischer served as chairman of the examining committee in the absence of Dr. Hellebrandt, who was ill.

Drs. Hellebrandt, Osterud and Hoff served as moderators for approval of Miss Lawrence's thesis, which is entitled "Development of Muscle Strength Through Appropriate Exercise".

Miss Lawrence received her undergraduate training in physical education at Cortland State Teachers College, Cortland, N. Y. She is a graduate of the Training Course in Physical Therapy, Walter Reed General Hospital, Washington, D.C. She had extensive experience in the U. S. Army Medical Department, including service in Hawaii. For two and one-half years during the war, she was attached to the Surgeon General's Office as officer-in-charge of Physical Therapy Branch Training Program.

Miss Lawrence is now Technical Director of the Physical Therapy Training School, University of Colorado Medical Center, Denver, Colorado.

• Three physical therapists have written excellent articles which would be of interest to everyone:

Ruth Hansen, Montana State Physical Therapy Consultant in Cerebral Palsy

"Physical Therapists Need Parents' Help"
in the October 1948 Issue of the CRIPPLED CHILD

Mary MacDonald, Orthopedic Supervisor in the Visiting Nurses Association of Boston

"Physical Therapy in a V. N. A."
Public Health Nursing, August 1948

Louise Hayward, Public Health Nurse Consultant in Physical Therapy, New York State Department of Health

"Orientation of Physical Therapists in a Public Health Agency"
Public Health Nursing, October 1948

• Meryl G. Adams—has retired to the country in Saugus, Calif., for at least a year. She reports much activity in painting the house, building a barbecue, etc.

• Martha S. Bell—of Philadelphia, resigned recently from the A. P. T. A. to be a "housewife, mother and grandmother".

• June Carpenter—Danville, Ill., reports that a handsome red-headed two months' old son is taking up all her time.

• Irene Harrod Collins—of Honolulu, has a son five months old.

• Betty Wieble Jackson—of Karns City, Pa., has a five month old daughter.

• Mary Judd—of Rochester, Minn., is now Mary Judd Patton.

• Helen Hazen, Laura Becklund and Ruth Ross received the degree of Bachelor of Science in Physical Therapy from the University of Minnesota in June 1948.

• Lucy Paine, a former member of this association was recently featured in an article in *The Boston Sunday Globe*. Miss Paine has earned for herself the title "Lady Blacksmith". Eleven years ago she "retired" to the hills of New Hampshire where, in a little red blacksmith shop, with flaming forge, hammer and anvil, she transforms bits of iron into things of beauty. She forges rims of discarded wagon wheels into borders for fire screens and hammers the prongs of hay rakes into decorative uprights. Horseshoes she converts into handsome door-knockers; even bits of auto chains are moulded into usefulness. As a school girl in Chicago, Lucy elected manual training all the way through school. The skill she acquired stood her in good stead through the years of hospital service when she actually built apparatus worn by her orthopedic patients.

New Members

The following are newly accepted members of the American Physical Therapy Association:

Brooks, William H., 177-49 105th Avenue, Jamaica, New York, N.Y.
Cutting, Irene M., St. Charles Hospital, Port Jefferson, New York
Halls, Mrs. Sarah H., 58 Maywood, Pleasant Ridge, Michigan
Lamar, Dorothy Ray, 3611 Elmwood, Riverside, Calif.
Powers, Phyllis L., 116 Maple St., Needham, Mass.
Schoenberg, Lois J., 115 Beake Street, Hamilton, Ontario, Canada

Recent graduates and former student members of the following schools:

Barnes Hospital, St. Louis, Missouri

Anderson, Katherine E., 5038 Maple St., Omaha 4, Nebraska
Borth, Margaret E., 7446 Maple Avenue, Maplewood 17, Missouri
Koehncke, Anita E., 3133 W. Kilbourne Avenue, Milwaukee 8, Wisconsin
Lake, Lorraine F., 4615 Lindell Blvd., St. Louis 8, Missouri
Siroky, Moye, 789 Yale Avenue, University City 5, Missouri
Tolin, Helen, Havensville, Kansas

D. T. Watson School, Leetsdale, Pennsylvania

Braziell, Elva, 2372 Birtley Avenue, Pittsburgh 26, Pa.
Cayia, Mane, 364 Lake Street, Manistique, Michigan
Drake, Viola, 51 South Street, Brockport, New York
Holmes, Beverly C., Waterville, Maine
Hopkins, Margaret L., 41 Park Road, West Lawn, Pa.
Lee, Jean Ruth, Walbridge, Ohio
Norman, Dorothy L., 1909 Lamvorn Avenue, Superior, Wisconsin
Zion, Blanche, 327 Stony Creek Street, Johnston, Pa.

University of Pennsylvania, Graduate Hospital, Philadelphia, Pa.

Bradford, William R., Lenape Road, R.D. No. 4, West Chester, Pa.

University of Kansas School of Medicine, Kansas City, Kansas

Clark, Margaret R., 2984 McMicken, Cincinnati, Ohio
Kemper, Jeanne, 4004 Wyoming, Kansas City 2, Missouri
Sargeant, Nancy, Physical Therapy Dept., Billings V.A. Hospital, Ft. Harrison, Ind.

University of Wisconsin, Madison, Wisconsin

Menhardt, Lorraine A., 628 Jefferson Avenue, Sheboygan, Wisconsin

New York University, New York City, New York

Sister Henry of the Trinity, St. Charles Hospital, Port Jefferson, New York

Northwestern University Medical School, Chicago, Illinois

Erickson, Patricia Louise, 17823 East Park Drive, Cleveland 19, Ohio
Hart, Billie Bob, 1015 S. Adams, Ft. Worth, Texas
Redder, Virginia M., 1725 Creek Road, Rochester 10, New York
Rooney, Mary Alene, 2152 East 78th St., Chicago 49, Illinois
Schenck, Jeanne, 7640 Greenview, Chicago, Illinois
Stucky, Faire, 120 East 15th, Hutchinson, Kansas

New Appointment

Dr. Shelby G. Gamble has been appointed head of the Department of Physical Medicine at the Cleveland Clinic. For the past three years Dr. Gamble has been assistant professor in the Department of Medicine at Ohio State University College of Medicine. During the same period he has been director of the Departments of Physical Medicine at both University and Children's Hospitals in Columbus. For the past year he has also served as medical director of the Franklin County Cerebral Palsy Treatment Center and consultant in physical medicine at Nightingale Cottage.

New Films Available

Announcement has been made by the Institute of Rehabilitation and Physical Medicine of New York University-Bellevue Medical Center of the release of the first three of the series of teaching film strips which will include Body Exercises, Mat Exercises, Wheelchair Exercises and Techniques, Elevation and Ambulation Techniques, Crutch Walking and Functional Retraining in the Activities of Daily Living.

The first three of the series which are now available include:

I. CRUTCH EXERCISES showing in detailed sequence through photographs, animation and text exercises against and away from the wall for the establishment of balance and the skills necessary for later crutchwalking.

II. CRUTCH WALKING: THE FOUR POINT GAITS showing in detailed sequence through photographs, animation and text the methods of walking with the "Four Point Gait" and "Four Point Alternate Gait".

III. CRUTCH WALKING: THE TRIPOD GAITS showing in detailed sequence through photographs, animation and text the methods of walking with the "Shuffle to Gait", "Swing to Gait" and "Swing Through Gait".

The strips may be purchased from FILMSTRIPS INC., 1307 Sixth Avenue, New York.

A new sound, color, .16 mm film on "The Institute of Rehabilitation and Physical Medicine" of the New York University-Bellevue Medical Center. The 20 minute film shows the various departments and activities of the Institute with special emphasis on functional retraining activities for daily living for severely handicapped persons.

Designed to be of interest to both professional and lay audiences, loan prints of the film may be obtained for a service charge of one dollar from the New York University Film Library, 26 Washington Place, New York 3, New York.

Cerebral Palsy Film

Funds totaling $25,000, for production of an educational film on cerebral palsy, will be raised by the National Association of American Business Clubs within the next four months, F. H. Bachman, Champaign, Illinois, president of the organization, announced today.

The film, which will be produced by National Society for Crippled Children and Adults, will be available to all interested persons and groups.

Women's Medical Specialist Corps

• *Promotions:* The Surgeon General of the Army announces the promotions of Major Eleanor L. Mitchell (Dietitian), Major Edna Lura (Physical Therapist), and Captain Ruth A. Robinson (Occupational Therapist), all officers of the Women's Medical Specialist Corps to the temporary grade of lieutenant colonel effective August 26, 1948. These officers all of whom have had extensive professional experience and are considered to be leaders in their professions were appointed as Assistants to Colonel Emma E. Vogel, Chief of the Women's Medical Specialist Corps and as Chiefs of the Dietitian, Physical Therapist and Occupational Therapist Sections of that Corps, respectively.

Lt. Col. Lura

Lt. Col. Lura whose home is in Roland, Iowa, graduated from Iowa State Teachers College, receiving a BA degree with a major in Physical Education in 1926 and from the training course in physical therapy conducted by the Medical Department of the Army at Walter Reed General Hospital, Washington, D. C., in 1930. Her continuous service in the Medical Department since that date includes a previous tour of duty in the Physical Therapist Section, Office of the Surgeon General and years of service wtih the Army of Occupation in the Far East Command, where she established the position of supervising Physical Therapist in the Office of the Surgeon in that Headquarters. Upon her return to the United States, Colonel Lura was assigned to the Office of The Surgeon General where she was designated the Acting Chief, Physical Therapist Section.

• *Career Management:* The Surgeon General recently announced the publication of a department of the Army Technical Manual, the subject of which is "Career Management for Army Officers." This publication contains a description of the career pattern which has been developed for officers in the three sections of the Women's Medical Specialist Corps in the Regular Army. Colonel Emma E. Vogel, Chief of the corps, says that the implementation of this program marks another milestone in the development of this corps and places it on the same plane as other corps in the Medical Department.

Upon entering the military service, all officers in the Women's Medical Specialist Corps will be originally appointed in the Officers' Reserve Corps, and will attend the Basic Medical Department Female Officer's Course of two months at Brooke Army Medical Center, Fort Sam Houston, Texas. Upon completion of this training which will orient these officers to military life, they will be assigned to station and general hospitals for general experience. Specialization will not begin until the officer has accepted a commission in the Regular Army and has satisfactorily completed several years of military service.

The assignment of officers will be made on a planned, rotating and progressive pattern through station and general hospitals in accordance with demonstration of increased ability and acceptance of responsibility.

After four or five years of service, officers who have demonstrated outstanding ability may apply for training in civilian institutions to pursue graduate courses leading to a Master's degree in the specialty concerned or in an allied field.

Graduate courses in civilian institutions which have been approved, beginning in September, and the names of officers in the Regular Army attending them are as follows: (1) For Dietitians: Advanced Dietetics, Nutrition and Diet Therapy, University of Wisconsin, (Captain Elsie K. Miller); Institution Management and Personnel Administration, Cornell University, (Captain Katharine E. Manchester); Advanced Institution Management and Personnel Management, Columbia University, (Major Helen M. Davis), (2) For Physical Therapists: Physical Therapy and Education, University of Wisconsin, (Captain Olena M. Cole); Physical Therapy, Medical College of Virginia, (Major Agnes P. Snyder), (3) For Occupational Therapists: Occupational Therapy, University of Southern California, (2d Lieutenant Mildred V. Bond).

As this program develops, it is anticipated that similar graduate training in other civilian institutions will be approved. Participation in this program will maintain the standards of the Women's Medical

Specialist Corps on a professional level equal to and in many instances far in advance of standards maintained in civilian fields. Participation in this program also will enable each section to develop a group of leaders in these specialties and to establish a nucleus of highly trained officers capable of assuming additional responsibilities in the event of a national emergency.

• *Extension Courses:* In accordance with Department of the Army directives, a Department of Extension Courses has been established at the Medical Field Service School, Brooke Army Medical Center, Fort Sam Houston, Texas, for the purpose of administering extension courses for officers in the Organized Reserve Corps, National Guard, and Regular Army. The primary purpose of the Medical Department Extension Course Program is to offer nonresident instruction to interested individuals, and every effort is being made to present material which will be of value to the members of the various corps of the Medical Department. Department of the Army Pamphlet No. 20-100. "Announcement of Army Extension Courses," dated July 1948, contains the current list of sub-courses proposed for Medical Department personnel.

Reserve dietitians, physical therapists, and occupational therapists in the Women's Medical Specialist Corps who are not serving on extended active duty are urged to avail themselves of the opportunity to participate in these courses which offer a wide variety of military subjects.

Requests for application blanks and informational material regarding extension courses should be submitted through the local Organized Reserve Corps Instructor to the Department of Extension Courses, Medical Field Service School, Fort Sam Houston, Texas. Regular Army officers may request this material through established military channels.

• *Twelve Month Physical Therapy Course:* The Surgeon General, Department of the Army, announces the resumption of the twelve months training course in physical therapy formerly conducted by the Medical Department. The first six months of this course, starting on November 1, 1948, will be conducted at the Medical Field Service School, Brooke Army Medical Center, Fort Sam Houston, Texas, and will consist primarily of didactic instruction. During the second six months the students will be assigned to selected army general hospitals where the didactic instruction will be continued and correlated with clinical application.

A prerequisite for this course is completion of the two months' Basic Medical Department Female Officers' Course which is being given during September and October at the Medical Field Service School and which is designed to orient the individual to military customs, regulations and procedures.

Individuals applying for this training, in addition to being college graduates with major emphasis on physical education, must be physically qualified, female citizens of the United States, not over 26 years of age, and must be in an unmarried status with no dependents under 14 years of age. Only individuals who have signed a statement expressing a desire to enter the Regular Army will be considered for this training.

Qualified applicants must apply for and accept a commission as a second lieutenant in the Women's Medical Specialist Corps Reserve and request extended active duty for a period of not less than two years. Students selected for this training will be furnished government quarters and will receive approximately $200 a month.

Upon the satisfactory completion of the physical therapy training course these officers will be assigned as physical therapists in army general hospitals. After serving in such assignment for not less than six months, these officers will be expected to apply for commissions in the Regular Army.

The date of the next course has not been determined but it is anticipated that it will be repeated in 1949. Further information regarding this training may be obtained by writing to The Office of The Surgeon General, Department of the Army, The Pentagon, Washington 25, D. C., Attention, Chief, Physical Therapist Section, Women's Medical Specialist Corps.

Revision of O.V.R. Regional Organization

On July 9, 1948, the Federal Security Administrator established ten Federal Security Agency regional offices for the purpose of forming an integrated pattern of administration of the various programs of the Agency on health, education, social security, vocational rehabilitation, and related areas. Prior to the establishment of these offices the Agency's programs were administered in the field through regional and district offices of its various constituent units. The new regional organization eliminates the previous overlapping of geographic boundaries among the Bureaus of the Agency and provides the States and the general public with centers of contact for Agency field programs.

In line with the above, the Office of Vocational Rehabilitation took immediate steps to make necessary adjustments in its regional boundaries and increase the number of its regional representatives to ten, in order to conform to the Agency regional pattern. The new O.V.R. regional organization, is as follows:

REGIONAL OFFICES	ADDRESSES
I—*Irwin M. Ristine,* Maine, Vermont, New Hampshire, Mass., Conn., Rhode Island.	Room 538 and 539, 120 Boylston St., Boston 16, Mass.
II—*Joseph M. LaRocca,* New York, Penn., New Jersey, Delaware.	11 West 42nd St., New York, N. Y.
III—*Homer L. Stanton,* Maryland, District of Columbia, West Virginia, Virginia, North Carolina.	Room 2336, Federal Security Bldg., No. 3rd and Independence SW, Wash. 25, D.C.
IV—*Tom G. Rathbone,* Michigan, Ohio, Kentucky.	1100 Chester Ave., Cleveland 14, Ohio.
V—*John H. Lasher,* Minnesota, Wisconsin, Illinois, Indiana.	Suite 2310 Steuben Bldg., 188 West Randolph Street, Chicago, Illinois.
VI—*Heber B. Cummings,* Tenn., Miss., Alabama, Florida, South Carolina, Georgia, Puerto Rico.	204 Rhodes Bldg., 78 Marietta St., Atlanta 3, Ga.
VII—*Louis R. Schubert,* North Dakota, South Dakota, Nebraska, Kansas, Iowa, Missouri.	Room 1012 Fidelity Bldg., Kansas City 6, Missouri.
VIII—*Doyle Best,* Louisiana, Arkansas, Texas, Oklahoma, New Mexico.	P.O. Box 1530* Norman Building, Corner Lamar and Ross Ave., Dallas, Texas.
IX—*Harold C. Corpening,* Montana, Idaho, Wyoming, Utah, Colorado.	Room 438 Equitable Bldg., Denver, Colo.
X—*Philip Schafer,* Washington, Oregon, California, Nevada, Arizona, Hawaii, Alaska.	Room 463, Federal Office Bldg., Civic Center, San Francisco 3, California.

Cerebral Palsy Scholarships

Eight physicians, surgeons and therapists have been awarded scholarships for specialized training in cerebral palsy by the National Society for Crippled Children and Adults, Inc. This is the first national scholarship program established to meet the challenge of a crippling condition that disables some half-million Americans, the Society stated.

Lawrence J. Linck, the Society's executive director, revealed that the scholarships were made possible under the first of six $5,000 yearly grants from Alpha Chi Omega, national women's sorority, which has adopted help to the cerebral palsied as its major national altruistic project. The scholarships will help meet the acute shortage of specialists trained in cerebral palsy, a disability of muscular control which results from damage to control centers in the brain.

The first eight recipients are: Arline F. Bovee, Mukileto, Wash., physical therapist at the Everett, Wash., Cerebral Palsy School; Miriam Bunce, Denver, Colo., physical therapist, Colorado Society for Crippled Children and Adults, Inc.; Dr. Harriet E. Gillette, Decatur, Ga., Fellow in Physical Medicine at Emory University, Atlanta, Ga., and recently appointed Medical Director of the Crippled Children League of Georgia and of Aidmore, convalescent children's hospital operated by the League; Dr. Stanford F. Hartman, Phoenix, Ariz., orthopedic surgeon; Bette Redwine, Albuquerque, N. M., physical therapist, Veterans Administration; Dr. Louis Spekter, Hartford, Conn., chief of Division of Crippled Children, State Department of Health; Joan A. Schauble, Seattle, Wash., physical therapist and speech correctionist; and Dr. Harold Westlake, Wilmette, Ill., associate professor of audiology, Northwestern University.

The scholarships cover study at the Children's Rehabilitation Institute, Cockeysville, Md., under supervision of the Institute's director, Dr. Winthrop M. Phelps.

Children's Bureau

Forty spokesmen for the producers and consumers of health services for mothers and children met in Washington, D. C., to form an advisory committee to the U. S. Children's Bureau on Federal-State programs for maternal and child health and crippled children's services. The Children's Bureau is a unit in the Social Security Administration, Federal Security Agency.

Invited by the Children's Bureau to advise it on matters of public policy affecting the promotion of better health for mothers and children, this new committee is the first in the child-health field, with representation both of non-professional and professional groups, to be given this broad mandate. Dr. Harry H. Gordon, Professor of Pediatrics, University of Colorado Medical Center, was elected chairman of the Committee for three years.

Members include (1) officially designated representatives of medical, nursing, hospital, dental, medical social work, physical therapy, and dietetic associations; (2) representatives of voluntary health agencies; leaders in labor, farm, women's and veterans groups; (4) specialists from graduate schools in medicine and allied sciences; and other distinguished citizens.

While devoting much of its time at this first organizing meeting to becoming acquainted with the Children's Bureau work in the fields of maternal and child-health and crippled children services, the Committee discussed several policy matters. Pointing to the tremendous shortage of all kinds of professional personnel in child-health, the Committee discussed at length the ways and means of stimulating the training of more professional workers and auxiliary personnel for the maternal and child-health programs and reviewed the way the State health agencies are now working with universities to this end. The Children's Bureau reported that the existing limitations on the total available funds limits the amount of work that can be undertaken to expand professional education opportunities.

Closer teamwork and understanding between non-governmental and governmental agencies working to improve child health, the Committee stressed, should be developed. To this end, the Children's Bureau was encouraged to set up an information exchange on programs and projects of such agencies as a first step toward better overall planning by voluntary groups and Government in behalf of children and mothers.

Better care for more children, particularly for those of school age and for those with seriously crippling conditions, was accepted as a goal by the Committee without arriving at any specific recommendations.

The Children's Bureau is responsible for administering the $18,500,000 grants which the Congress makes available each year to the States to "extend and improve" their maternal and child-health services and services to crippled children. Under these State maternal and child-health programs, many kinds of services operate for the promotion of health and a more limited range of services for the treatment of sick mothers and children. State programs for crippled children attempt, within their resources, to provide for diagnosis and treatment as needed.

The fact that the Social Security Act Title V puts a ceiling on the amounts of Federal funds available for appropriation for these programs and that appropriations are now made up to this limit, was recognized as a deterent to expansion of the programs. No decision was taken at this first meeting as to how this limitation should be overcome though a number of ways were discussed.

In welcoming the members of the new Advisory Committee at their first meeting, Dr. Martha M. Eliot, Associate Chief of the Children's Bureau, emphasized the wide opportunities of the group to help in molding public policies in respect to the development of these programs.

The Committee recommended meetings be called by the Children's Bureau at least twice a year. Barbara White, Educational Secretary of the American Physical Therapy Association is a member of the committee.

American Occupational Therapy Association

The American Occupational Therapy Association held their annual convention in New York, September 7-11, 1948. Reports from physical therapists attending indicate that it was highly successful professionally and socially.

Dr. Howard Rusk was the featured banquet speaker. As many of you recall the Illinois O. T. Association provided some very pretty match folders for all the guests at the A. P. T. A. banquet. The New York Chapter of the A. P. T. A. reciprocated in a similar fashion at the American O. T. Association banquet.

Physical Medicine Course at Hines

The second 3-month Course of Instruction in Physical Medicine and Rehabilitation is being given at the Veterans Administration Hospital, Hines, Illinois.

Nineteen physicians from various Veterans Administration Hospitals throughout the country, and one army physician, are enrolled in the course which started September 20, 1948, and continues until December 11, 1948.

This course is under the direction of Dr. Louis B. Newman, Chief of the Physical Medicine Rehabilitation Service at the Veterans Administration Hospital, Hines, Illinois, where Dr. K. A. Carroll is Manager.

Meet Our New Contributors

Lulu Boerner, 1032 N. Dearborn St., Chicago, Illinois. Attended University of Wisconsin for one year. Graduate of Michael Reese Hospital Training School for Nurses, Chicago. Graduated from physical therapy at Northwestern University Medical School, 1929. Has been with the Northwestern University Department of Physical Medicine since graduation as clinical instructor in physical therapy. She is a member of the American Physical Therapy Association and is registered with the American Registry of Physical Therapy Technicians.

Kelly, Herbert T., 1900 Spruce Street, Philadelphia, Pa. Graduated from Jefferson Medical College in 1925, receiving M.D. degree. He is a Fellow, American College of Physicians; Associate in Medicine, Presbyterian Hospital, Philadelphia; Chief Department of Medicine, Doctor's Hospital, Philadelphia; Chairman, Committee on Nutrition, Medical Society of the State of Pennsylvania. Dr. Kelly is Associate in Medicine, Graduate School of Medicine, University of Pennsylvania.

Snavely, Dorothy, 546 Washington Avenue, West Haven, Connecticut. Graduated from the New Haven School of Physical Therapy in 1931. Has held the following positions: Assistant Chief Technician, Temple University Hospital; Chief Technician, Jewish Hospital, Philadelphia; Physical Therapist for the State Board of Education of Ohio; Chief Technician, White Cross Hospital, Columbus, Ohio; and Chief Physical Therapist with U. S. Army with three years' service overseas. She has been a member of the American Physical Therapy Association since 1933 and is also registered with the American Registry of Physical Therapy Technicians. At present she is the Assistant to the Director of Medical Projects of the Unitarian Service Committee. She returned to this country from Czechoslovakia early in the year.

Stein, Irvin, 269 S. 19th Street, Philadelphia, Pa. Graduated from Jefferson Medical College in 1930, receiving M.D. degree. He is a member of the county medical society and a Fellow in the Pennsylvania State society and the A.M.A.; Fellow, American College of Surgeons; Fellow, International College of Surgeons; Fellow, American Academy of Orthopedic Surgeons; Fellow, College of Physicians of Philadelphia; Member of the Association for Study of Neoplastic Diseases; and a member of the Johns Hopkins Medical and Surgical Association. His present positions include: Chief, Orthopedic Surgery, Philadelphia General Hospital; Attending Orthopedic Surgeon, Children's Seashore Home, Atlantic City; Chief, Orthopedic Surgery, Doctor's Hospital; Orthopedic Surgeon to Eagleville Sanatorium; Member, Attending Staff, University of Pennsylvania Hospital.

Elizabeth C. Wood, 7200 So. Yale, Chicago, Illinois. Received A.B. degree in 1932 and A.M. degree in 1937 from Montclair Teachers College, New Jersey. She was graduated from the D. T. Watson School of Physical Therapy in 1944 and is completing graduate work in physical therapy and physiology at Northwestern University Medical School. Has served with the Army of the United States with 9 months overseas. At present she is in the physical therapy department at Wesley Memorial Hospital in Chicago and is an Instructor in Physical Medicine at Northwestern Medical School. She is a member of the American Physical Therapy Association and is registered with the American Registry of Physical Therapy Technicians.

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Abstracts

John S. Coulter, M.D.

Medical Management of the Patient with a Fracture of the Hip

R. H. Freyberg, M.D., and M. D. Levy, Jr., M.D., New York. In JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 137:14:1190, July 31, 1948.

Common preexisting complications were obesity, diabetes mellitus, hypertensive vascular disease and arteriosclerotic-heart disease.

The most important complications were those acute illnesses which occurred after the fracture. These were chiefly pneumonia, decubitus ulcers, phlebothrombosis and pulmonary embolism. It is significant that most of the cases of pneumonia and pulmonary embolism occurred in patients confined to bed.

Prevention of obesity undoubtedly would lower the incidence of hip fracture, another of the many reasons for maintenance of normal weight during aging. Weight reduction should be started in all obese patients, if not before, at the outset of treatment for the fracture. In these older persons whose activity is sharply curtailed because of the fracture transformation of energy is small, frequently 1,500 to 1,600 calories per twenty-four hours; so in order to accomplish satisfactory weight reduction, the diet should provide 800 calories or less during each twenty-four hour period. It should contain 60 to 80 Gm. of protein and enough bulk to be satiating by liberal use of low carbohydrate vegetables and fruits.

It should be clearly understood that osteoporosis is not primarily a disturbance of calcium and phosphorus metabolism; it is the insufficient production of osteoid tissue. Most common causes are: (1) failure of stimulation of osteoblasts due to postclimacteric deficiency of steroid hormones; (2) decrease in stimulation of osteoblasts due to reduced physical activity (disease atrophy); (3) protein deficiency which depletes the bone matrix, and (4) old age atrophy of bone matrix.

Prolonged rest quietly in bed should be avoided whenever possible, for Deitrick and associates and others have shown that this augments excretion of calcium and causes osteoporosis.

The second most frequent postfracture complication was phlebothrombosis, which in some cases produced pulmonary embolism and infarction.

Important prophylactic measures against phlebothrombosis include leg exercises for those patients who need continued bed rest. An oscillating bed may be of distinct value if treatment for the fracture will allow its use. It is desirable to avoid long therapeutic bed rest in older patients; for this reason the nailing procedure and early ambulation are advantageous.

Night Cramps in Human Extremities: Clinical Study of Physiologic Action of Quinine and Prostigmine Upon Spontaneous Contractions of Resting Muscles

H. K. Moss and L. G. Herrmann. In AMERICAN HEART JOURNAL, 35:369, March 1948. Abstracted in JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 137:14:1246, July 31, 1948.

Moss and Herrmann present observations on 20 patients with nocturnal muscle cramps. Night cramps seem to result from the action of some end product of metabolism, as in

diabetes, or from poor elimination of normal end products of muscle metabolism, as in patients with venous stasis due to varicose veins or pregnancy, or following deep venous occlusion. Increased muscular activity favors the development of night cramps during the rest which follows such activity. No relationship exists between intermittent claudication and muscle cramps at rest. Quinine sulfate has been found to give prompt relief of night cramps in extremities. Evidence indicates that the action of quinine is directly on muscle, rather than on the myoneural junction. Quinine sulfate produces a refractory period in skeletal muscle that is similar to the refractory period in heart muscle.

PTs Need Parents Help

Ruth Hansen. In THE CRIPPLED CHILD, Oct., 1948.

"How can the physical therapist help the parents understand what she is doing for their child . . . and what can parents do to cooperate?"

In answering these questions, we consider the child who lives at home and is brought to the cerebral palsy center for muscle reeducation.

How can parents cooperate? Briefly, here are a few ways. Learn all you can about the condition and needs of your child and what the program hopes to accomplish. If his mental endowment is less, accomplishment in self-care is still possible as far as the existing mental level permits. Mental level is decided by those experienced in psychological testing and if doubt exists, judged after a three or more months' trial in training and schooling.

Try to make sure that in your personal attitudes you are not setting up a barrier to progress, either by too much or the wrong kind of sympathy, help and care, or by too little. Try to give just enough mental and physical assistance and support—no more! See to it that other adults having to do with the child conform to the pattern set up for him. They must not interfere with the muscle training and home training program. On the other hand, the parents should do nothing to distract the child while the therapist is working with him.

Follow the instructions closely and faithfully from day to day. Do not be influenced by friends and neighbors regarding your child's welfare. If he becomes ill, get the advice of a physician. If he simulates illness, ignore it. Remember that a cerebral palsied child is not likely to be ill more than any other child. Treat him as a normal child with no more than necessary exceptions.

All routine daily activities must be regular. Sufficient time must be allotted at meals to see that food is really swallowed. Most feeding problems can be eliminated by close cooperation with the doctor and the public health nurse. Deviation from home routine should not be allowed oftener for the cerebral palsied child than for other children in the home. Discipline, in the sense of regularity and systematic training, is the warp, and gives firmness to the fabric into which the pattern of all training and education is woven.

Ignore discourteous stares and remarks of outsiders. Seize every opportunity to influence your child toward independence at his age level. Never keep a child in a high chair or other baby environment after he has passed a baby age, unless it is unavoidable. Adult-sized furniture is harmful for him physically. He should have his own suitable furniture adjusted, bought or built to fit. This is part of the plan for treatment and for as normal growth as possible. Especially, it should be made certain that his feet are well supported in the correct position (ankles at right angles and feet straight ahead). Sitting on the floor with knees bent and feet back on either side causes deformity and retards balance and walking.

Fun and recreation enjoyed by the rest of the family will also be enjoyed by your cerebral palsied child, who should be a part of all family activities. Toys requiring big motions should be provided. They should be manipulative and simple enough for his needs. The company of other children of the same age is important. Because of his inabilities, it may be he will need more frequent "loving" than his brother and sister.

Recognize every show of understanding, every effort and achievement. If he does not have a good sense of humor, help him develop one. Do not try to force the child's speech by urging him to talk. Try to see that he hears good clear speech daily, talk much to him even though he does not answer you. Give him an opportunity to express his wants *before they are provided.* Allow him to think for himself.

Special apparatus and equipment will be ordered for him. The sooner he can begin to use it, the quicker he can benefit. Daily home practice in corrected walking, use of splints and braces, furniture and all other equipment is supervised by the therapist.

Home achievement records are an incentive to him and an encouragement to parents, besides providing a dated history of development.

All walking aids should be pointed toward maximum independence from personal adult aid. Eliminate all sitting locomotor aids such as kiddie cars. Use push walkers only on advice of those in charge of muscle reeducation. Though such apparatus is an aid to parents, it may retard walking development many months.

Poor aids develop poor habits. It may take months to unlearn these habits and build up better ones. All methods of aid, if carried on too long, may spoil the desire for independent walking and add to the child's dependence. Continued walking with personal aid is of no more use to parents or child than if he remains in the crib, as he must still be waited upon. For some children who show fear, make a game of teaching them to fall; first on a mattress, progressing to mat, lawn, rug and floor.

At times it may seem for periods of weeks that nothing is being accomplished when suddenly a new ability is born. A lapse or a slow-down may be due to a slow, hidden development going on within the nervous and muscular systems. A cold, illness, state of over-fatigue or excitement may be the cause; or "staleness"—disinterest from too constant or persistent effort. Allow freedom from routine training one day a week.

Parents' groups primarily organized for mutual benefit of the members are a means whereby much can be gained through talks of those who understand general, muscle training and teaching problems, and group methods of study and discussion. Through such groups, interviews and demonstrations at the unit as described, and any other means suitable to the local situation, parents may take their places as auxiliary members of the team which must pull together to gain desired results for their cerebral palsied children.

Studies of the Pulmonary Circulation at Rest and During Exercise in Normal Individuals and in Patients with Chronic Pulmonary Disease

R. L. Riley, A. Himmelstein, H. L. Motley, H. M. Weiner and A. Cournand. From the Cardio-Pulmonary Laboratory, Chest Service, Bellevue Hospital; and the Department of Medicine, College of Physicians and Surgeons, Columbia University, New York, N.Y. In THE AMERICAN JOURNAL OF PHYSIOLOGY, 152:2:372, February 1, 1948.

Summary

1. Studies of cardiac output and pulmonary arterial pressure were performed using the venous catheter technic in three normal individuals and in eight patients with various types of chronic pulmonary disease. Measurements were made at rest and during exercise on a stationary bicycle.

2. Two of the three normal subjects showed a decrease in the mean pressure in the pulmonary artery during exercise; all showed a marked drop in pulmonary vascular resistance and a minimal increase in the work of the right ventricle during exercise.

3. Three of the patients with chronic pulmonary disease showed a significant elevation of pulmonary arterial pressure at rest, and in all eight cases the mean pressure increased during the exercise. There was either no change or an increase in the pulmonary vascular resistance during exercise, and the work of the right ventricle was invariably higher than in the normal subjects at a corresponding work level.

4. The findings indicate that the expansibility of the pulmonary vascular bed during exercise is limited in patients with chronic pulmonary disease.

5. Anoxia may contribute to the elevation of pulmonary arterial pressure during exercise in those patients whose arterial oxygen saturation falls.

6. The physiological evidence upon which an estimate of disability must be based in patients with chronic pulmonary disease is extended by studies of the pulmonary circulation during exercise.

Effect of Delay of Innervation on Recovery of Muscle After Nerve Lesions

E. Gutmann, Department for Research on Nervous System, University of Prague, Czechoslovakia. In JOURNAL OF NEUROPHYSIOLOGY, XI:279, July 1948.

Nerve suture following peripheral nerve injury in man is performed at various periods after injury.

It is concluded that up to a period of eight months of denervation, the poor degree of functional recovery following reinnervation is due to deficient maturation of the nerve fibers and to deficiency of the newly formed contact between nerve and muscle fibers. The rate of regeneration of nerve fibers apparently is not affected after such periods of denervation. After longer periods, recovery of muscle fibers becomes more deficient, the degree of muscle atrophy being then apparently a decisive factor in limiting functional recovery.

Newer Concepts of Electrodiagnosis in Peripheral Nerve Injuries

Alex J. Arieff, M.D. In ARCH. OF PHYS. MED., 29:9:571, Sept. 1948.

Summary

The evolution of change can be followed by the methods described.

During degeneration, muscle loses its response to faradism with thresholds usually used; the galvanic rheobase early rises and falls. The threshold for progressive current and ratio early rises and falls; the threshold for galvanic current tetanus and ratio early rises and then falls; the chronaxie lengthens, and the height of the strength duration curve likewise decreases and increases. The strength duration curve becomes discontinuous. The threshold for repetitive direct current stimuli at intervals of one, five and twelve milliseconds increases, with the ratio between 1 and 12 millisecond intervals increasing from 1 to over 1. The polar ratio decreases.

During denervation, the response to faradism is absent with ordinary thresholds. The thresholds for galvanic rheobase, galvanic tetanus and ratio, progressive current and ratio is lowest. The chronaxie is longest. The strength duration curve is continuous. The threshold for repetitive direct current stimuli is highest, and the one to twelve millisecond interval ratio is highest. The polar ratio is close to unity and may be less than 1.

During regeneration, the response to faradism returns but long after other signs. The threshold for galvanic rheobase, galvanic tetanus and ratio progressive current and ratio increases. This is an early sign; galvanic tetanus ratio is the most sensitive. The chronaxie shortens, but prognostic levels are a late sign. The strength duration curve becomes discontinuous, and the height of the strength and duration curve first increases and later decreases (a late sign). The threshold for repetitive direct current stimuli decreases and there is a leveling of one to twelve millisecond intervals. This is a late sign. The polar ratio increases but only as a late sign.

After prolonged evaluation of the methods used, we have finally evolved our final examination as a routine electrodiagnostic procedure. This consists of determination of rheobase, strength duration curve, chronaxie, galvanic tetanus threshold, galvanic tetanus ratio, repetitive stimuli threshold for twitch and tetanus at one, five and twelve millisecond intervals. These data are obtained by means of the Golseth-Fizzell stimulator. Faradic response is obtained by a Harvard Inductorium. Electromyographic examination is done with a custom-built electromyograph. Electromyography adds confirmatory evidence of denervation potentials and regeneration of nascent unit voltages.

Conclusion

Electrodiagnosis is a definite aid in evaluating the status of nerve-muscle complex during degeneration, degeneration and regeneration.

Importance of Current Form and Frequency in Electrical Stimulation of Muscles: Studies in Retardation of Muscle Atrophy in the Dog

A. J. Kosman, Ph. D., S. L. Osborne, Ph. D., and A. C. Ivy, M.D., Ph.D. In ARCH. OF PHYS. MED., 29:9:559, Sept. 1948.

Although ample evidence has been accumulated to show that denervation atrophy can be effectively retarded by electrical stimulation, from a practical point of view it is important to know whether similar results can be obtained under conditions more closely resembling those found clinically. A *sine qua non* of the effectiveness of electrical stimulation is that it produce vigorous contractions of the muscle, and in a previous communication we pointed out that not all currents are equally capable of fulfilling this requirement at current intensities which could conceivably be tolerated by the average patient. In the denervated gastrocnemius muscle of the rat we found that a modulated sinusoidal current with a carrier frequency of 25 cycles per second developed the greatest muscle tension at the lowest current intensities, and was also the most effective current in the retardation of its atrophy.

In these previous experiments it was difficult to evaluate the painfulness of the stimulating current. These difficulties are overcome in the present studies and without a question a modulated sinusoidal current with a carrier frequency of 25 cycles per second can elicit strong contractions of the denervated muscles and maintain its weight over a period of nine months at current intensities easily and comfortably tolerated by the dogs.

Statements that current intensities sufficient to produce vigorous contractions of denervated muscle cannot be used clinically is not at all true when there is the proper selection of the current form and frequency.

Summary

Daily stimulation of the denervated gastrocnemius-soleus muscles of the twenty-three dogs with a modulated sinusoidal current with a carrier frequency of 25 cycles per second effectively maintained the muscle weight over a period of nine months. The current intensities used were accepted by the unanesthetized animals without pain and without discomfort.

The Hemiplegia Patient as a Person

Dorothy Moore, R.N. In PUBLIC HEALTH NURSING, 40:10:-511, October 1948.

Among the chronically ill in homes a very large proportion are hemiplegia victims. The life expectancy of these patients may be anywhere from two weeks to five or more years.

We need to evaluate what allows one person afflicted with a permanent disability to return to a useful life while another becomes a totally dependent invalid. Each small part of the whole has made the patient the kind of person he is. The factor of cost for care alone will make the patient react differently to the same affliction according to his economic status. If he has limited savings he sees his economic security rapidly diminishing and perhaps also the chance of returning to his job. Such a person will behave differently from the person who has unlimited funds and is accustomed to many personal services.

If he has learned to face life's problems in an adult manner before he is stricken he will learn to make the most of a bad situation but if he has been dependent on other members of the family his dependency will increase in illness.

The impact of illness upon the family varies according to which member is afflicted. If the wage-earner is laid low the concern for meeting bills is tremendous.

The ability to accept illness and make the most of it is in proportion to how well the family members have gotten along together previous to the illness. But regardless of the kind of person he is, here is a sick person in need of understanding and skilled care.

The emotional aspects of the disease are as important as the physical. The fear of another stroke or of a prolonged disability are well justified. There is no point in telling members of the family not to worry when there is really something to worry about. However, guiding their thoughts into constructive channels and spending their energies toward rehabilitation can divert their interests.

It is usually very difficult for the family to understand the patient's crying too readily and his garb'ed speech. So often when the patient cries the family members sympathize with him or try to explain what seemed to upset him when this only aggravates the tears. Tactfully changing the trend of conversation will much more readily check the flood of tears. The family needs to understand that this is a characteristic of the disease and can be held at a minimum with intelligent observation. However, one must always keep in mind what an overwhelming blow to a person's ego occurs when he finds himself so totally helpless with no assurance of recovery.

It is so easy for the person teaching the patient to walk to talk about it, but remember no one can know what it is like to have one leg under you that will not do what it is told and gives about as much support as so much rubber. Only the good leg (weaker than normal) keeps the patient from crashing to the floor. Then, too, there is usually a heavy, flopping useless arm to throw him further off balance. It is no wonder that he is afraid to try to walk.

Another factor to keep in mind is the matter of getting a patient ready for leaving the house the first time. As long as he is learning to walk and can conceal his shuffling gait within the four walls of his home he is willing to do it but when he recognizes that the public will be watching him in his affliction he may find many excuses for escaping those first steps out of the house.

While most hemiplegia victims suffer some mental deterioration one of the most unfortunate things that can happen to him is to treat him as "insane" or "crazy." Ofttimes he is much more alert than anyone can realize and such treatment creates a great deal more disturbance within him. The inability to make himself understood helps give this impression. Even patients who have appeared to be unconscious will sometimes surprise the nurse by recalling incidents which occurred during that time.

One of two types of speech impairment may occur in the stroke patient. In one type the ability to understand and speak words is destroyed; in the other the victim can understand the spoken word but is unable to form the words he is thinking. The latter of course is the more hopeful. Such a person can speak better when he is relaxed and unexcited. If people who are around the sick person give thought to the conversation directed to the patient his replies can be made in a few words and probably within his ability. Lengthy sentences are too much at first and only after a long time can be expected. Explaining the character of the patient's difficulty to the family will do much to create a mentally healthy attitude toward the affliction.

Emotional and mental strain are often factors which bring on another stroke. It is therefore very important that the family understand this condition so that they and friends do not bring worry into the sick room.

After the Acute Stage Has Passed

All too often unfortunately the hemiplegia patient who has weathered the first few weeks in the acute phase of his illness is allowed to progress at whatever pace he sets. To me the real challenge comes after the acute stage when the victim will be a product of rehabilitation only to the degree of interest, skill, and imagination the nurse has exercised. The first tub bath, the first steps, or the first excursion into the outside world for the stroke patient gives one a sense of satisfaction of a job well done that cannot be equaled in caring for any surgical patient.

The Pathogenesis, Diagnosis and Treatment of the Acute Phase of Poliomyelitis

William F. Feiedewald, M.D. Atlanta, Ga. In THE NORTH CAROLINA MEDICAL JOURNAL, 9:8:371. August, 1948.

Treatment

Muscle tenderness and pain are relieved by proper positioning, together with the intermittent application of hot wool compresses and gentle passive motion. In general, sedatives and analgesics are contraindicated because of possible respiratory failure, although aspirin can be used if desired. Curare and neostigmine have been used to relax spasm, but they are not advocated for general use at present.

Some Points in Management of Infantile Cerebral Palsy

John H. Crosland, M.R.C.S., L.R.C.P. In PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE, XLI:406, June 1948.

The earlier treatment can commence the better, and an age of one year is certainly not too young. There are obvious risks of maldiagnosis in starting at this age, and it is not easy to determine whether the child be intelligent or not, but there is one very great advantage in that the child does not develop bad movement patterns in the endeavor to overcome his handicap himself, and further the right environment can be ensured. In the older child these bad habits of movement superimposed upon the original handicap are very difficult to deal with and make the best results almost impossible of attainment.

Where there is not gross athetoid movement, the child should be encouraged to roll and kick on the floor, and he may be allowed to crawl, but he should not be allowed to stand or walk until his reablement program is well advanced.

As treatment programs are long and may continue for months at a time, it is most important that the child's interest in his treatment should be aroused and maintained. To this end his rehabilitation must be made as attractive as possible, and one good plan is to teach him exercises, etc., to the sound of an easily learned tune preferably sung to him in order that he may get the sense of the words as well.

Due to the natural enthusiasm of teachers and therapists there is danger of overworking the child and overtaxing his powers of concentration. Programs must therefore be carefully worked out with this in mind, and adequate rest periods provided.

Passing to the spastic type of cerebral palsy, it will be found that these children are often extremely fearful. They must therefore at all times feel perfectly secure. Treatment tables must be wide enough to give them this feeling of security, and they must be handled firmly and competently. At the same time a scheme of exercises is made out for the re-education of their limb muscles, and when as much improvement in pelvic control as possible has been obtained they can pass to practise in sitting unsupported, kneeling, standing, and finally walking. It is always useful to get as much aid from gravity as possible by posturing the child in his exercises. Thus he may be placed head downwards on a tilted table where the pectoral muscles are spastic. Again, where the dorsi-flexors of the foot are weak, as they often are, he may be placed on his abdomen with his legs at right angles to the table. In the child with athetosis the key-note of management is relaxation. If he can be taught to relax efficiently, he can lose a great deal of his unwanted movements. It is very important that these children should have really adequate rest periods because of the greatly increased amount of energy consumed by this uncontrolled movement. When relaxation has been achieved as well as may be, he must be taught new movements of the affected limbs which are purposive movements under his own volitional control.

Occupational therapy is an important part of the management of most types of cerebral palsy. It has, of course, little part where the arms are unaffected. Its main sphere is to teach the child to carry over into every day actions what has been taught him by the physical therapist. That is to say, he is taught to feed himself, and to dress himself, and this is carried out by practice with various feeding aids, such as drinking straws, special plates, spoons, etc. In learning to dress, the child will first practice buttoning, lacing, etc., on models held immovably in frames. He is also taught the movements of writing, and, if it is thought he will not be able to achieve this legibly, he is taught to use a typewriter. While the athetoid child is being taught these skills the occupational therapist must see that the rest of his body is maintained in the relaxed position.

The Treatment of Infantile Paralysis During the Acute Stage

Philip Lewin, M.D., Chicago. In THE JOURNAL OF THE INDIANA STATE MEDICAL ASSOCIATION, 41:9:908, September 1948.

As soon as the diagnosis of infantile paralysis is proved or strongly suspected treatment should be started.

Rest: Rest is the one great essential in the immediate care.

Application of External Heat: Extremities should be kept warm.

Gentle passive exercises are given, but never to the point of pain.

Primary Splinting: Any recognized type of splint which will maintain neutral positions can be used.

Nursing Care: The patient must be kept in bed, with physical and mental quiet. To preserve rigidity and prevent sagging, several boards or a wood frame may be placed under one or two mattresses.

Treatment by Warm Sea Salt Baths: Warm sea baths alleviate muscle and nerve pain. In some instances they may be started very cautiously within seven days after the onset of the disease.

Physical Therapy After the Acute Stage: Attention should be directed to the prevention of deformities by means of rest in proper positions, with constant supervision of the most minute details.

The less patients are handled in the early stages, the better the results will be.

The majority of patients are kept off their feet from ten to twelve months before they are allowed to attempt to stand or walk even with the support of braces and crutches. If, however, a patient is very slightly affected, his activities will depend largely on the return of power to the muscles of his trunk, pelvis and lower extremities. He would probably be kept off his feet for at least six months.

Overuse of an affected limb is harmful.

Assisted Movements: Muscle training consists in aiding the patient to perform a certain movement, in the hope of stimulating an impulse for the movement from the brain to the weakened or paralyzed muscle.

Underwater treatment has been an important advance in handling poliomyelitis patients.

Light massage, if given by a person especially trained in the after-care of infantile paralysis, is valuable.

Braces: A brace is a mechanical support whose purpose is to maintain a certain position of a portion of the body.

Boxer's Bursitis

A. Waxman, M.D., and H. Geshelm, M.D. Los Angeles. In CALIFORNIA MEDICINE, 69:3:203, September 1948.

1. (a) In a five-year period during which 523 injuries to professional and amateur boxers and wrestlers were treated, traumatic bursitis of the metacarpo-phalangeal joints of the hand was diagnosed in ten instances. (b) The diagnosis of bursitis was confirmed by aspiration of bloody or gelatinous fluid from the affected bursa. (c) The lesion occurred particularly in Negro pugilists following knuckle injuries. (d) Review of the literature indicates that this is a relatively rare disease.

2. These cases were among 22 knuckle injuries treated during the same period, 12 of the 22 (nine in Caucasians and three in Negroes) having been simple contusions which were completely reduced in a few days of treatment with hot soaks.

3. Conservative treatment in seven of the cases of bursitis, consisting of aspiration of the bursa, hot soaks, and adhesive strapping and physical therapy, resulted in clinical cure. In the remaining three the bursal sac was excised and clinical cure followed.

4. Reports of the cases in which the bursal sac was removed are made in detail.

Value of Physical Therapy as an Adjunct for the Aged

Louis Feldman, M.D. Brighton, Mass. IN MEDICAL RECORD, 161:7:418, August, 1948.

At the beginning of the twentieth century about 5 percent of our population were over 65, and 18 percent were 45 years of age or older; today 6.8 percent are over 65, and 27 percent are 45 years of age or older. In the United States now there are actually 6,000,000 more persons who are 65 years of age or older than there were in 1900, and it is estimated that by 1980, the total number of those in this age group will be 22,000,000.

Physical therapy has been proven a valuable adjunct to medicine and surgery in the diagnosis and treatment of disease and injury at all ages.

If all precautions are taken with proper understanding of the physiopathological changes, underlying the conditions in this select group, and the correct diagnosis and indication for treatment is present, favorable results shall be attained. It is important to maintain mobility and preserve circulatory balance, and to instill a sense of well being and a zest for living.

My observation has proven that physical medicine is a great aid in the relief of pain and disability in their mental and physical rehabilitation. Such measures correctly and carefully applied have made this branch of medicine and surgery a worthy partner.

Causalgia Following Gunshot Injuries of Nerves: Role of Emotional Stimuli and Surgical Cure Through Interruption of Diencephalic Efferent Discharge by Sympathectomy

James C. White, M.D., William W. Heroy, M.D., and Edmund D. Goodman, M.D., Boston, Mass. ANNALS OF SURGERY, 128:161, August 1948.

Major causalgia, as first described by Mitchell, Morehouse and Keen, follows partial injury of the mixed peripheral nerve trunks incurred in penetrating wounds with a rate of incidence somewhat under 5 per cent.

The pain is aggravated to an unbearable degree by factors which increase the sympathetic discharge from the hypothalamic centers—thermal and psychic stimuli. While it may disappear with complete regeneration of the injured nerve, this process is at best so slow that the patient is liable to become addicted to morphine, suffer serious personality changes, and develop irreparable trophic disturbances in his bones, joints and soft tissues.

Interruption of the sympathetic outflow, preferably by preganglionic sympathectomy, is an effective method of treatment and should be performed at an early date. Preliminary chemical blocking of the sympathetic rami and ganglia by injection of procaine is a valuable diagnostic test, particularly in atypical cases. Repeated paravertebral injections have been reported to give lasting relief in some cases, but they have not been effective in our patients.

Sympathectomy in the hands of the authors has resulted in consistent relief of the burning causalgic pain. After operation eight patients had no further complaints of any sort. On careful cross-questioning, five had some residual paresthesia and hyperesthesia in the area of recovering cutaneous innervation. This in no way resembled the former causalgic syndrome and was identical with the usual subjective sensations that accompany nerve regeneration. It was severe enough to retard rehabilitation in only a single patient.

It is the opinion of the authors that relief of burning pain following denervation is due to elimination of the efferent sympathetic discharge from the hypothalamic centers rather than to any interruption of pain fibers. There is no good evidence for the existence of centrally conducting sympathetic axones in the peripheral nerves. Furthermore, the suffering of causalgia is relieved under circumstances in which sympathetic tone is reduced—viz., a quiet, warm environment, ingestion of alcohol, sleep, and febrile states. Recently, reported work on experimental animals suggests that there may be a short-circuiting effect in the area of the injured peripheral nerve which permits direct irritation of sensory afferent fibers by efferent sympathetic impulses.

Thirteen cases are described which have been treated at a Naval Hospital. All were relieved of their unbearable pain and the resultant effect on their psychological status and resistance to rehabilitation was dramatic. While the period of follow-up has been usually less than a year, there is no reason to suppose that recurrent complications will occur.

Rehabilitation of Fractures

J. J. R. Duthrie, J. G. Maclead, and R. J. G. Sinclair. In THE BRITISH JOURNAL OF SURGERY, 35:140:414. April, 1948.

1. The methods used in the rehabilitation of service cases following fractures are described.

2. An analysis of the results obtained in 3121 fractures is presented, with special reference to the duration of treatment and the degree of residual disability. Attention is drawn to the singular lack in the literature of reasonably accurate estimates of these factors. It is hoped that the figures presented may be of value in the assessment of prognosis.

The figures presented in this paper were collected while the authors were serving as specialists in physical medicine in Scottish Command.

Management of the Trochanteric Fracture of the Femur

Mather Cleveland, M.D., D. M. Bosworth, M.D., and F. R. Thompson, M.D., New York. In JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 137:14:1186, July 31, 1948.

Postoperative Care

After operation patients are replaced temporarily in light traction pending application of a Thomas brace with pelvic band and knee lock. Continuance of such a brace until solid union is obtained is essential. Early full weight bearing with the brace is neither necessary nor advisable.

One must continuously remain aware of the fact that these patients are old and afflicted with many debilitating factors aside from their fractures. They have been badly injured and need especial nursing attention and care.

An Ideal Hospital for Paraplegic Patients

Captain L. W. Freeman, M. C., A. U. S. THE MILITARY SURGEON, 103:219, September 1948.

A practical solution to the establishment of a large hospital center for the exclusive care of patients with spinal cord injuries is presented. Every effort has been made to approach the ideal in every respect while still maintaining an attitude of practicality. Many of the solutions are borrowed; others, such as the overhead bars and the lavatory adaptions, are believed to be original with this group. The hydrotherapy ward could also be classed original.

Early Ambulation: Clinical Results and Frequencies

Karl A. Meyer, M.D., Donald D. Kozoll, M.D., and Nicholas Capos, M.D., Chicago, Illinois. MINNESOTA MEDICINE, 31: 883, August 1948.

No discussion of early ambulation would be complete without a consideration of possible contraindications. Failure to recognize that not all patients can be ambulated early has probably led to the abuse and disuse of this program in the past. Each patient should be individually evaluated and if any of the following extenuating factors are present, final judgment may well be to defer ambulation.

1. *Shock:* hypotension is aggravated by motion and the erect position.

2. *Hemorrhage:* because of the attendant shock and fear of encouraging more bleeding with motion.

3. *Generalized Peritonitis:* because of the pain, distention, and sepsis.

4. *Unrelieved Intestinal Obstruction:* because of the distention and the resultant tension on wounds.

5. *Pulmonary Infection:* because of tachycardia, dyspnea, toxemia.

6. *Wound Evisceration or Extensive Wound Infection:* tensile strength of wound is diminished.

7. *Severe Toxic States:* irrational states such as are seen in thyroid crisis, sepsis.

8. *Cardiovascular Complications:* ambulation would add to the load of a burdened myocardium.

9. *Extreme Debility:* nutritional deficiencies.

10. *Severe Anemia:* cerebral anemia aggravated in the erect posture.

Summary

1. The postoperative complications of 500 surgical patients after the performance of one of five standard surgical procedures (gastric resection, colon resection, cholecystectomy, hysterectomy and herniorrhaphy) were studied in relation to early or late ambulation.

2. There was a total of ninety-eight complications among 500 patients; twenty-eight of the complications occurred in the 250 patients ambulatory early and seventy in the other half ambulatory late, 11.2 per cent and 28 per cent respectively.

3. There was a total of thirteen deaths (included in the ninety-eight complications), of which all but one occurred in the group with prolonged bed rest.

4. Pneumonia not only occurred more frequently in the late risers but also was more often fatal.

5. Postoperative wound infections, thrombophlebitis, and distention showed a decline with early ambulation, whereas pulmonary atelectasis and cystitis did not.

6. A significantly shortened period of hospitalization was seen for each of the procedures when followed by early ambulation.

7. A detailed consideration of the prerequisites for early ambulation, its advantages and contraindications is presented.

Traumatic Dislocation of the Hip Joint: Review of One Hundred and One Dislocations

J. R. Armstrong, London, England, Formerly of the Orthopedic Service of the Royal Air Force. British Number, THE JOURNAL OF BONE AND JOINT SURGERY, 30-B:430, August 1948.

The patients reviewed in this paper received all or part of their treatment in the orthopedic centers of the Royal Air Force between June 1940 and June 1945. More than half of them were admitted to one of the centers directly after injury, and others were seen within the first few days. In many, however, initial treatment had been carried out elsewhere, often under circumstances of extreme difficulty, and several months had sometimes elapsed before the patient reached this country.

Only in one case did myositis ossificans develop, and that was the only case treated by "massage and movements" throughout the first ten weeks after injury.

A Study of Physical Activity in Juvenile Diabetic Patients

Robert L. Jackson, M.D., and Helen G. Kelly, M.S., Iowa City, Iowa. In THE JOURNAL OF PEDIATRICS, 33:155, August 1948.

Exercise was known to be an important factor in the treatment of diabetes mellitus long before the discovery of insulin. Since the discovery of insulin and the advances made in its refinement and modification, along with the recent rapid advances in our knowledge of nutrition, exercise as a factor in the treatment of diabetic patients has received little attention.

In 1940 the method was described by this clinic for stabilization of children with diabetes mellitus. The regimen outlined has been effective, and a large number of children have been able to maintain excellent regulation over extended periods of time.

In our study of exercise under home regulation, we have limited our evaluation to the well-regulated patients because these subjects generally keep better records than those who maintain a lower level of diabetic control. It is obvious that a well-kept record is essential when the relation of exercise to diabetic regulation is being studied.

Presumably when the well-regulated diabetic child exercises more than usual, he utilizes his glucose directly for energy, and consequently, he has an excess of insulin available to convert glucose into glycogen. The loss of glucose from the blood, both by utilization and storage, easily may result in hypoglycemia. If the patient has mild diabetes mellitus requiring only a small amount of exogenous insulin, his ability to compensate will be enhanced by the depression of the endogenous insulin. On the other hand if the disease is severe, requiring a large amount of exogenous insulin, the patient will have a smaller threshold of safety.

It has been observed that if the diabetes of the child is well regulated and he maintains good control, later when he becomes more mature physically and mentally he is freer from shocks of all types. The adolescent or young adult learns to judge his tolerance for exercise and his need to compensate by eating extra food for unusual periods of strenuous exercise. However, the adolescent must be advised when and how much extra food he needs, in order to prevent erratic and excessive compensation and poor dietary habits. It is preferable that extra food be eaten at mealtimes. For the young adult, the privilege of eating socially after an evening party, dance, or game has psychologic and social advantages and is provided for in our regimen.

General Practice: Symposium on Low Back Pain

James L. Hamner, M.D., Mannboro, Va. In SOUTHERN MEDICINE AND SURGERY, 110:7:209, July 1948.

The commonest cause of persistent lumbosacral pain is degeneration or traumatic injury of the intervertebral disc.

The diagnosis of herniated disc depends on study of the history of the case, upon evaluation of the symptoms, and upon the result of a neurological examination for areas of hypalgesia and alteration of the knee and ankle jerks.

Treatment of acute low-back strain consists primarily of rest and graduated physical activity on a semi-rigid mattress. Any flexion contracture of the hips suggests the addition of flexion of the knees to flatten lumbar lordosis; this may be added to any strain for comfort. Rest on either side in similar position is allowed if comfortable. A strain having no nerve symptoms is seldom improved by leg traction. Diathermy, infra-red radiation or hot packs afford relief and shorten convalescence. When improvement justifies change to ambulatory treatment, support by adhesive strapping or corset is added. Activity is restricted for at least three months.

Of particular importance is the equalization of leg length by shoe elevation. Minor shortening of a leg is common and causes little difficulty. The addition of a strain in the low-back area to leg-length is prone to cause symptoms.

Under certain conditions as in pregnancy, obesity, muscular weakness or bone deficiency, the line of gravity is moved posterior to the sacro-iliac joint and balance of the body is then possible only by excessive muscular effort or by accentuating the lumbar lordosis with secondary increase in the angle of pelvic inclination, a flexed position of the hips and dorsal kyphosis. In strain of the low-back structures, posture improvement will contribute greatly to clinical improvement. This improvement follows the use of supports to decrease abdominal prominence of lumbar lordosis and the medical treatment of the underlying general deficiency.

Infections of the Hand

J. B. Loudon, J. D. Miniero and J. C. Scott, Oxford, England. From the Accident Service, Radcliffe Infirmary, Oxford (Director—J. C. Scott) THE JOURNAL OF BONE AND JOINT SURGERY (British number) Vol. 30-B; 3:413, August 1948.

We have been impressed by the large number of hands which despite treatment were damaged beyond repair, both functionally and cosmetically. This was sometimes due to neglect in treatment, but in other cases it was the inevitable result even after the early application of all methods in current use.

Postoperative Treatment

Elevation and immobilization should continue until swelling has disappeared and the wound is healed—usually within ten days. Sutures should not be removed in less than seven days. Gentle use of the digit is encouraged as soon as the wound is healed, even before removal of the sutures. Full movements were regained in all cases by ordinary use of the hand, except in the case of two patients who needed physical therapy.

Particular care is necessary when there is necrosed skin. As soon as the wound is clean and granulating, skin grafting should be carried out under local anesthesia. Pinch grafts, taken from the inner surface of the arm, have been used. Immobilization in plaster was continued for another eight to ten days. Intensive active exercises were then started.

Vascular Approach to Treatment of Rheumatoid Arthritis: Preliminary Report

R. J. Boucek and E. W. Lowman. In AMERICAN JOURNAL OF MEDICAL SCIENCES, 215:123, February 1948. Abstracted in JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 137:11: 990, July 10, 1948.

Boucek and Lowman point out that the literature contains many references to the abnormal vascular pattern of rheumatoid arthritis. On this basis patients with acute involvement of joints were treated by constant packing of both the involved joints and the surrounding soft tissue immediately on admission to the hospital, using hot moist foments. This is continued for seventy-two hours or more until acute edema and pain are alleviated. Packing is similar in technic to that described by Kenny. Following this the patient is subjected to the spinal flushing procedure of Speransky, which consists in doing first a lumbar puncture and then aspirating and reinjecting spinal fluid. After the headache from spinal pumping has disappeared, the patient begins a course of typhoid vaccine treatment and autohemotherapy. This consists usually of six fever sessions induced twice weekly for three weeks. At the same time that triple typhoid vaccine is given intravenously, 10 cc. of the patient's blood withdrawn from the arm is reinjected into the gluteal muscles. A violent chill with an elevation in temperature to 102 to 104 F. sustained for four to six hours is the effect desired. Between these fever treatments the patient is given nicotinic acid orally twice a day. Physical therapy is utilized as indicated. Twenty-seven patients were subjected to these measures. The majority of those with rheumatoid arthritis appeared to be benefited.

Secondary Closure of Wounds of Hand

M. L. Mason, Chicago. In INDUSTRIAL MEDICINE, January 1948. Abstracted in JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 137:13:1159, July 24, 1948.

Mason shows that the surgeon confronted with a serious open wound of the hand often is in a dilemma as to what to do. It is customary to give penicillin, but a large percentage of patients would do well without it. Secondary closure of the wound may be undertaken if there is no evidence of infection by the fourth to sixth day. After closure the hand is again put at rest on a splint, where it is kept until healing has occurred. Here the universal hand splint is found useful. The hand remains in the position of function during the entire period of healing. Practically every fracture of the hand may be successfully reduced on this splint.

The Role of Physiotherapy in the Treatment of Poliomyelitis

F. S. Cooksey, O.B.E., M.D. In PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE, XLI:395, June 1948.

Treatment In the Stage of Chronic Disability

Some time between six months and two years it becomes obvious that no further improvement is likely to be obtained in the weak muscles by graduated exercise. This is always a difficult decision to take and the point is reached so gradually that it is apt to be overlooked with the result that the expectant treatment is continued too long with unnecessary financial hardship to the patient. I think a physical therapist who has been coaxing weak muscles for many months is liable to underestimate the degree of recovery at this stage and consequently it is important for the medical practitioner to check the voluntary power record frequently at this period.

Corrective Physical Rehabilitation—An Effective Approach

J. L. Rudd, M.D., Reubin J. Margolin, M.A., Charles L. Rose, M.A. THE MILITARY SURGEON, 103:2:125, August 1948.

This paper describes the special methods used in a physical rehabilitation setting, which proved to be more effective than a routinized conventional approach. Ingredients in this program were:

1. Motivation through patient participation.
2. Informality.
3. Free expression of patient including expression of hostility and resistance.
4. Use of personal relationship factors.
5. Use of imaginative and sometimes improvised material in athletic activities and dramatizations.

The general aim was to create a therapeutic atmosphere which facilitated the response of each individual within the group. Negative factors in patients' behavior were given an opportunity for expression and thus prevented from blocking maximum recovery. In a minority of cases, resistances were so deeply rooted in fears, such as return to combat duty and loss of dependency status, that only limited successes could be achieved.

The emotional component ever present in the play between patient and therapist was recognized, understood, and utilized. This factor of relationship, common to all disciplines allied under the aegis of rehabilitation, points to the need of an integrated program, from which the individual patient can receive optimum benefit.

Dynamic Therapeutics in Chronic Disease

Howard A. Rusk, M.D., New York City. In NEW YORK STATE JOURNAL OF MEDICINE, p. 1579, July 15, 1948.

One of the most significant advances made in rehabilitation during the war and the immediate postwar period has been the increased recognition given to medical rehabilitation as an integral part of medical care. Just as satisfactory job placement is the capstone of any successful program of services to the handicapped, medical rehabilitation, starting at the earliest possible moment following acute illness or injury, is the foundation, since all subsequent rehabilitation processes are built upon the residual disability which medical care cannot eliminate.

The first comprehensive total medical rehabilitation program in any community hospital in this country has recently been inaugurated at Bellevue Hospital in New York. Operated under the professional direction of the Department of Rehabilitation and Physical Medicine of the New York University College of Medicine, the service has bed facilities for 80 patients and offers a program of physical medicine, physical therapy, occupational therapy, corrective physical rehabilitation, social service, corrective speech, psychologic services, vocational guidance, education and planned recreation. It operates as a service department to the other departments of the hospital in much the same manner as the x-ray and laboratory, and treats both in-patients and out-patients on reference from the other services of the hospital.

A Medical Responsibility

Few communities in the United States envision or have the need of a community rehabilitation center the size of the new Institute of Rehabilitation and Physical Medicine at New York University or of a general hospital rehabilitation program as large as that of Bellevue Hospital. Their philosophy and administrative pattern, however, can be adapted to even the smallest community. The arthritic, the cardiac, the hemiplegic, the patient with arrested tuberculosis or a severe orthopedic disability—all deserve full medical care from the bed to the job, regardless of where they live. Nor is the opportunity of bringing such care to his patients restricted to the medical specialist. One of the greatest problems in rehabilitation is that of motivation: encouraging, convincing, and demonstrating to the disabled that they can rehabilitate themselves.

Treatment of Peripheral Nerve Injuries

Rear Admiral Winchell McK. Craig (M.C.), U.S.N.R. In THE MILITARY SURGEON, 103:1:1, July 1948.

The surgical treatment of peripheral nerve injuries is only one small part in the entire treatment. Injury to a peripheral nerve affects the extremity which that nerve supplies, and an extremity which has been denervated obviously is incapable of performing normal activities. Not only is the muscular activity interfered with, but the vascular and trophic phases are so altered that there is discomfort and disability.

A greater appreciation of splintage has been acquired as the evils of immobile casts and lack of exercise of muscles and joints involved was indelibly impressed upon the minds of the surgeons and the physiatrists who attempted final rehabilitation. Splinting applied for support and allowing movements of adjacent joints is of value. Passive motion and gentle massage maintain better metabolism of the muscles and create a more receptive condition for reinnervation.

It has been proved that an evaluation of return of function after injuries to peripheral nerves cannot be reached until several years have elapsed. Not only must there be a complete regeneration of the nerve but there must be an adjustment period during which the muscles of finer coordination must be reeducated.

Poliomyelitis in Children: A Clinical Study

Clifford K. Kobayashi M.D., and Joseph L. Kehoe, M.D., Iowa City. In THE JOURNAL OF THE IOWA STATE MEDICAL SOCIETY, 38:9:402, September 15, 1948.

The purpose of this paper is to report clinical experiences with poliomyelitis in children who were seen in the Department of Pediatrics of the State University of Iowa during a ten-year period from Jan. 1, 1937, through Dec. 31, 1947.

Treatment

Treatment during the acute phase was by various means. Roughly, the entire group was divided into two sub-groups; those treated with and those not treated with Kenny packs. Those treated with packs received the Kenny technic with a few modifications. A total of 194 children received the modified Kenny and a total of 184 children received the non-Kenny regimen. It is interesting to note that more children treated with packs had residual muscle weakness than those who were not treated with packs. An erroneous conclusion can be drawn and should be guarded against because of the relatively shorter follow-up period for those who received the modified Kenny regimen.

Between 30 and 40 per cent of the children who had evidences of muscle weakness at the time of admission eventually recovered without residuals regardless of how they were treated. Hot packs were not curative, and were not necessarily superior nor inferior to other methods. It was a clinical impression that packs, more than any other measure, afforded comfort to the children, especially those with muscle tightness or spasm associated with pain. Furthermore, the children received greater attention during treatment with packs than with other measures.

The Shoulder-Hand Syndrome in Reflex Dystrophy of the Upper Extremity

Otto Steinbrocker, Norman Spitzer and H. Harold Friedman. In ANNALS OF INTERNAL MEDICINE, 29:22, July 1948.

A variety of seemingly unrelated clinical disorders, usually considered distinct entities, have been described in the surgical and medical literature for many years. These conditions include causalgia, Sudeck's atrophy (post-traumatic osteoporosis), painful disability of the shoulder following coronary occlusion, post-infarctional sclerodactylia, palmar and digical contractures as well as Dupuytren's contracture, the swollen atrophic hand associated with cervical osteoarthritis, certain changes in the paretic limbs of hemiplegics, and a number of others. In this group belongs the idiopathic shoulder-hand syndrome. It is becoming increasingly apparent that, although the etiology of these various syndromes may be different, many of the clinical features, and probably the neurovascular mechanisms underlying their development, are very similar, if not identical.

Orthopedic and Physical Therapy Measures

Immobilization of the affected parts in conjunction with the various modalities of physical therapy—heat in all forms, heliotherapy and massage have been utilized extensively. These measures, however, apart from giving temporary palliation, seem to exert little influence on the course of the disease. Oppenheimer, on the other hand, employed short-wave diathermy to the cervical spine and in six of seven cases with swelling and atrophy of the hand secondary to cervical osteoarthritis he reported recovery. Our results with this form of treatment have not been impressive.

Manipulative procedures have been widely condemned. Manipulation of the shoulder, especially, in these cases is apt to be based on a misdiagnosis of bursitis, fibrositis and, possibly, scalenus anticus syndrome. The shoulder discomfort and disability frequently are regarded as symptoms complicating, or unrelated to, the hand signs. According to our experience such deductions usually represent a failure to correlate the salient features of the shoulder-hand syndrome.

Infantile Cerebral Palsy

Philip Rainsford Evans, M.D., M.Sc., F.R.C.P. In PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE, XLI:402, June 1948.

Incidence

The incidence of infantile cerebral palsy has been estimated by Duryea (1941) to be 50 patients per 100,000 of the population in the United States of America. According to Phelps (1941) the figures are similar in urban and rural districts, and may be expressed as: 7 born each year per 100,000 population: 1 dies in infancy; 2 are mentally defective; 4 are educable, of whom 1 is midly, 2 moderately, and 1 severely afflicted.

Thus for every 100,000 people there are probably 30 children who are moderately affected and who need special education and therapy. At this rate London would have to cope with over 2,000 children with cerebral palsy who need these special methods, and perhaps another 3,000 who are so severely handicapped mentally or physically that they need to be cared for in institutions. It must, however, be emphasized that we have no figures upon which an estimate of the incidence in this country can be based. A survey is needed. All one can say at present is that the two residential units open in England accommodate some 50 children, and that the pathetic quest of the parents for adequate treatment for their handicapped sons and daughters is marked by recurring disappointment.

Microwave Radiations: Heating of Human and Animal Tissues by Means of High Frequency Current with Wavelength of Twelve Centimeters (The Microtherm)

Stafford L. Osborne, Ph.D., and Jesse N. Frederick, M.S., Chicago. In JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 137:12:1036, July 17, 1948.

Summary

1. Microwave (radar) radiations were applied to the thighs of dogs, and temperature measurements made subcutaneously and at ½ inch (1.27 cm.) intervals to a depth of 2 inches (5.08 cm.). Following exposure to high frequency energy the maximum temperature was observed in the subcutaneous level and decreasing temperatures were found with increasing depth. The average temperature at a depth of 2 inches (5.08 cm.) in ten experiments using the 6 inch (15.24 cm.) hemispherical director at a spacing of 1 inch (2.54 cm.) from the skin surface was 104.1 F. (40.1 C.).

2. In seven "acute" experiments on dogs the eye was exposed to microwave radiations. The average temperature of the vitreous body following microwave treatment was 105.8 F. (41 C.). One animal received a series of six treatments over a period of three weeks. There was no evidence of damage to the eyes or contiguous tissues.

3. Six experiments were performed in which the frontal sinus of the dog was exposed to microwave radiations. The average of the temperatures of the frontal sinus following exposure to the microwave was 105.1 F. (40.6 C.).

4. In twenty-four experiments on human subjects the thigh was exposed to microwave radiation. The average temperature at a depth of approximately 2 inches (5.08 cm.) immediately following microwave irradiation was 104.2 F. (40.1 C.). One small superficial blister was produced. By the tenth day the blister had disappeared. The treatments were comfortable to the patients, and a minimum of erythema was noted. Microwave treatment should be applied cautiously because the minimum of erythema and discomfort to the patient gives the operator less warning of overheating. The limitations of localized heating by this method have been indicated.

Preventive Orthopedics in the Treatment of Poliomyelitis

John F. Pohl, M.D. In THE JOURNAL OF PEDIATRICS, 33:208, August 1948.

The general plan of management which was carried out in 1946, as in previous years, was to hospitalize every patient until spasm and muscle shortening had been overcome and each patient had also been retrained as thoroughly as possible in the normal motor patterns. Treatment of the peripheral tissues consisted primarily of complete rest in bed with prompt and intensive application of moist heat to all areas affected by spasm. As pain and sensitivity disappeared, gentle manipulation and manual release of the shortened tissues was used where necessary in conjunction with the moist heat. Incipient deformities from muscle shortening responded to this treatment as spasm was overcome.

The period of hospitalization of the 1,057 surviving patients of the 1946 epidemic averaged twenty-one days for the thirty-three patients with abortive cases (those with clinical symptoms other than paralysis, but having a normal spinal fluid cell count); twenty-three days for the 356 nonparalytic patients; and will average from two to fourteen months for the paralytic patients, depending upon the severity of attack. It is estimated that nine patients will require a stay of two years.

Development of Ultraviolet Blood Irradiation

E. K. Knott, D.Sc., Seattle, Washington. In THE AMERICAN JOURNAL OF SURGERY, LXXVI:2:165, August 1948.

The development of ultraviolet blood irradiation therapy was an outgrowth of an attempt to utilize the bactericidal properties of ultraviolet rays in the treatment of blood stream infections. If the greatest advantage was to be derived from the bactericidal properties of the rays, a method of applying them directly to the blood stream of the patient had to be developed. The problem faced was twofold in nature: (1) to develop a method of application and (2) to determine the necessary dosage.

Thus ultraviolet blood irradiation therapy must be considered as a powerful therapeutic agent which the skilled physician and surgeon can use in a wide variety of disease processes, since in using this method one is applying certain fundamental biochemical and physiologic effects.

The favorable results experienced from the clinical use of the ultraviolet blood irradiation certainly warrants extensive investigation of the modus operandi of the procedure and detailed, intensive clinical studies to determine fully its potentialities.

Book Reviews

Handbook of Orthopedic Surgery. *By Alfred Rives Shands, Jr., B.A., M.D., Medical Director of the Alfred I. du Pont Institute of the Nemours Foundation, Wilmington, Delaware; Visiting Professor of Orthopedic Surgery, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania. In collaboration with Richard Beverly Raney, B.A., M.D., Associate in Orthopedic Surgery, Duke University School of Medicine, Durham, North Carolina; Lecturer in Orthopedic Surgery, University of North Carolina School of Medicine, Chapel Hill, North Carolina. Illustrated by Jack Bonacker Wilson. Third edition. Cloth. Price, $6. Pp 574, with 159 illustrations. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Mo., 1948.*

In this textbook of orthopedic surgery the various entities which are etiologically related have, insofar as possible, been placed together. Affections which cannot be satisfactorily classified in this manner have been grouped under the heading of the anatomic region involved. This arrangement will enable the physician and student unfamiliar with orthopedic surgery to obtain a clearer understanding of relationships between its different entities. As in previous editions the subject matter is divided into twenty-four chapters in accordance with the report of the Committee on Undergraduate Instruction in Orthopedic Surgery of the American Orthopedic Association to provide twenty-four class periods of an hour's duration for undergraduate orthopedic instruction.

In all definitions of orthopedic surgery emphasis is placed equally upon the prevention and upon the correction of deformity. This conception of prevention dates back to the original orthopedic textbook, written by Nicholas Andry of the University of Paris. In this edition of this popular textbook particular attention has been given to the new and worthwhile developments in orthopedic surgery which evolved from the recent medical experiences of our armed forces.

This book is recommended to physical therapists as a textbook in orthopedic surgery.

Medical Writing: The Technic and the Art. *By Morris Fishbein, M.D., Editor of the Journal of the American Medical Association, with the assistance of Jewel F. Whelan, Assistant to the Editor. Second edition. Cloth. Price, $4. Pp. 292. The Blakiston Company, 1012 Walnut St., Philadelphia 5, Pa., 1948.*

This book represents the gradual evolution of the theory and practice of medical writing associated with the conduct of the editorial department of the American Medical Association for some thirty-five years. The present volume constitutes an extensive revision of various previous editions together with much new material. The new material has been developed largely as the result of the handling of thousands of manuscripts for the Journal of the American Medical Association and the special periodicals published by the Association.

The book should be in the library of everyone doing medical writing.

Illustrations of Regional Anatomy. *By E. B. Jamieson, M.D., Senior Demonstrator and Lecturer Emeritus, Anatomy Department, University of Edinburgh. Seventh Edition. Paper. Section I, Central Nervous System, Plates 51. Price $3.50; Section II, Head and Neck, Plates 64. Price $4.00; Section III, Abdomen, Plates 44. Price $3.00; Section IV, Pelvis, Plates 35. Price $2.50; Section V, Thorax, Plates 32. Price $2.50; Section VI, Upper Limb, Plates 42. Price $3.00; Section VII, Lower Limb, Plates 52. Price $3.50. The Williams and Wilkins Co., Baltimore, Md., 1947.*

This is the seventh edition of the Complete set of Illustrations of Regional Anatomy. Each region is illustrated fairly completely, and almost every naked-eye structure is shown in one drawing at least. Some of the figures are mere copies of the blackboard diagrams, but most of them reflect what is seen in actual specimens.

At the request of graduates a limited number of copies of the later editions has been issued as bound volumes containing all seven sections, but far the greater number is published in separate sections.

The plates are made of a size to fit the commonest kind of notebook and they are placed on loose-leaf pillars in order that the student may have the choice either of removing them and pasting them in notebooks or of keeping them in their covers. If they are kept in their covers the loose-leaf method enables the student to remove two or more closely-related plates and study them simultaneously. For these reasons the plates are printed on only one side of the paper.

Most of the original drawings are multi-colored. The paper chosen was one on which students could add color with chalk. Color was greatly increased with each succeeding issue until full coloration was reached in the fifth edition. Opportunity was then taken to use a variety of fine art paper which is tougher and thinner and whose glossy surface adds brilliance to the colors. These books can be highly recommended to physical therapists studying anatomy.

The Contribution of Physical Therapy to Nursing Education. *Prepared by the Subcommittee on the Utilization of Special Therapists in the Teaching of Student Nurses of the Committee on Curriculum. Paper. Price, $1.25. Pp. 78. National League of Nursing Education, 1790 Broadway, New York 19, 1948.*

Nursing educators have long known that the physical therapist can make a valuable contribution to basic nursing education. How this contribution is to be made frequently has puzzled both the nursing school faculty and the physical therapist.

Too often the problem has been met by allocating to the physical therapist a specified number of hours for classroom instruction. Seldom has an attempt been made to orient her to the nurse's problems in order to help her make her instruction really meaningful. Nor has the physical therapist attempted to familiarize the nurse instructors with the scope of physical therapy so that they may decide what this specialty may offer which will strengthen the nurse's education.

The result of this lack of understanding has been that eight to twenty hours assigned to the physical therapist by various nursing schools are spent either in teaching massage or in introducing student nurses to interesting apparatus in the physical therapy department. Probably no one would object to the student nurse spending the time necessary to become skilful in giving the simple massage which is essential for good bedside care, nor would it require too much time for the student to acquire some understanding of what goes on in a physical therapy department. But the questions arise as to how much massage is used by the nurse in giving good nursing care, and what understanding of physical therapy technics on the part of the nurse is necessary for correlation of the two services.

Obviously, if satisfactory answers are to be had, it will be necessary for the nurse instructors and the physical therapists to examine jointly the basic curriculum of professional schools of nursing to learn in what areas the physical therapist can make a contribution. This book should be read by all physical therapists working in hospitals connected with schools of nursing.

Essentials of Neuro-Psychiatry: A Textbook of Nervous and Mental Disorders. *By David M. Olkon, S.B., A.M., M.D., Associate Professor of Psychiatry, College of Medicine, University of Illinois, Chicago. Cloth. Price, $4.50. Pp. 310, with 138 illustrations. Lea & Febiger, Washington Square, Philadelphia 6, Pa., 1945.*

In this brief exposition the author has attempted to describe the fundamental principles of psychiatric disturbances. The first part of the book deals with the general principles of etiology in which genetics, body build, nutrition and other organic factors play a dominant role. The whole problem of the unconscious is dispensed with briefly and described as the "inarticulate stage of consciousness". He makes a rather arbitrary distinction between the neuroses and psychoneuroses and his discussion of these is purely descriptive. The superficial handling of psychotherapy is woefully lacking in adequate information. In Part II under major personality disorders he describes the functional psychoses and again there is offered a phenomenological description. The next two parts deal with the organic psychoses. Finally he discusses abnormal behavior types such as the psychopathic disorders and in the last chapter there is a conglomeration of material relative to the effect of war and army life on behavior.

The first few chapters of the book are worth reading since they offer valid information regarding etiology in which the author's organic and philosophical background have something to contribute. Everywhere else the book has nothing to offer. For example, the chapter on epilepsy consists of a description of the various types of attacks and a few pictures which seem quite irrelevant and uninstructive. There is a picture of twins and it describes that they both have ideopathic epilepsy. Later there is a picture of psychotic imbecile, and so on. Illustrations in many chapters are not pertinent and often are drawn from ancient works of Weygant. They are not nearly as good as more dear material that is easily available.

It is impossible to discuss all the defects in this book. It offers nothing new either in content or form. In general it is quite disappointing and uninformative.

The Rehabilitation of the Patient: Social Casework in Medicine. *By Caroline H. Elledge, Assistant Professor of Social Work, McGill University, Montreal. Foreword by Phillip D. Wilson, M.D., Surgeon-in-Chief, Hospital for Special Surgery, New York City. Cloth. Price, $2.50. Pp. 112. (The preparation of this book was aided by a grant from the National Foundation for Infantile Paralysis.) J. B. Lippincott Company, East Washington Square, Philadelphia 5, 1948.*

Rehabilitation is a matter of teamwork and it takes years to train the individuals in order that they may play their full parts on that team. The team includes physicians, psychiatrists, psychologists, nurses, physical therapists, occupational therapists, medical and other types of social workers, teachers, vocational councillors and many others not least of whom are the employers. All are working toward a common goal which has been defined by the National Council on Rehabilitation as the restoration of the handicapped to the fullest physical, mental, social, vocational and economic usefulness of which they are capable. There is need for more and better rehabilitation, but it is a dynamic movement and is gaining and expanding. The chief lack at present is the trained personnel to carry on the work.

No one is better fitted to make the early approach to the patient to win his confidence and investigate the family and social background than is the medical social worker. Frequently even in the simplest case the threads that tie people together become tangled. It is difficult to solve the problem unil someone goes in to help sort out and unwind the various threads so that they can be fitted back again into an orderly pattern. The author uses case histories to illustrate the need for different methods of approach and for varied technics in the solution of many different problems that are encountered by the medical social workers. Failure to understand that these problems lurk behind the scenes to a greater or lesser extent in practically every case accounts for many of the defeats encountered in the work.

This book is valuable because much is being written about rehabilitation and yet so few really understand what it is, how it works or by what methods the results are accomplished. The physical therapist is part of the team of rehabilitation and it will pay her to read this book to find the sense of need for the medical social worker in this field.

An Evaluation of Non-Directive Psychotherapy by Means of the Rorschach and Other Indices. *By George A. Muench, Assistant Professor of Psychology, University of Louisville, Louisville, Ky. With a foreword by Carl R. Rogers, Professor of Psychology, University of Chicago, Chicago. Applied Psychology Monographs of the American Psychological Association, No. 13. Paper. Price, $2. Pp. 163, Published for the American Psychological Association by Stanford University Press, Stanford University, California; Oxford University Press, Amen House, Warwick Sq., London, E. C. 4, 1947.*

This monograph is an attempt to fill a great void in the literature on psychotherapy. It is a detailed report of the efficacy of treatment of twelve cases with non-directive psychotherapy by several psychologists. In addition to the therapists' and the patients' opinion regarding treatment, there were preliminary and follow-up studies with the Rorschach, the Kent-Rosanoff Free Association Test, and the Bell Adjustment Inventory. Although in nine of the twelve cases the tests indicated that improvement occurred as estimated by the therapist, there were other cases in which these differed. The greatest value in this piece of work is to indicate the possibilities of objective assessment of the value of psychotherapy. The monograph is laborious to read but is commendable because of its purpose and method.

Technique of Treatment for The Cerebral Palsy Child. *By Paula T. Egel, Cerebral Palsy Director, Children's Hospital, Buffalo, New York. Introduction by Winthrop M. Phelps, M.D., Medical Director, Children's Rehabilitation Institute, Baltimore, Maryland. Appendix by Moir P. Tanner, F.A.C.H.A., Superintendent Children's Hospital, Buffalo, New York. Cloth. Price $3.50. Pp. 203, with 49 illustrations. The C. V. Mosby Company, St. Louis, Mo., 1948.*

This book gives the treatment of cerebral palsy as it is prescribed by Dr. Winthrop Phelps. These ideas and treatment techniques have been developed through his skill and untiring efforts and have been put to use by many workers which he has trained. Dr. Phelps devotes most of his time to the cerebral palsy problem, educating people to the need for such work. There are some statements in this book that the trained physical therapist would want to have explained more fully, e.g. '(When massage is given for any of the cerebral palsy conditions its main purpose is purely a basis for building up and increasing muscle power, by aiding the circulation and nutrition of individual muscles." In disagreement the following statement is quoted from a recently published book on the physiology of muscular activity: "The only way to develop strength of muscles is to exercise them against gradually increasing resistance." This statement might also be questioned: "A spastic muscle rarely needs massage due to the fact that the involuntary contractions occur often, causing the muscle to develop a greater amount of strength than is actually needed, However, its antagonist, the normal muscle, which seldom moves through the full range of motion is considerably weaker and therefore requires massage for the purpose of building up the muscle tone. This build-up of the tone of the normal muscle equalizes the power of its antagonist, the spastic muscle." The trained physical therapist will question the terms "normal muscle", "considerably weaker" and the statement, "requires massage for the purpose of building up muscle tone".

Dr. Phelps is an authority and this book should be read by those interested in this subject. The information in this book will aid troubled parents by saving them considerable anxiety, and in some instances, actual heartbreak.

Physiology of Muscular Activity. *By Edward C. Schneider, M. P. E., Ph.D., D. Sc., Professor of Biology, Emeritus, Wesleyan University, Middleton, Connecticut and Peter V. Karpovich, M. P. E., M.D., Professor of Physiology, Springfield College, Springfield, Massachusetts. Third Edition. Price $3.75. Cloth. Pp. 346, illustrated. W. B. Saunders Company, Philadelphia, Pa.*

The authors state; "In the preparation of the third edition of this book an attempt has been made to adapt it primarily to the needs of students of physical education. It is hoped, however, that the material here presented will be found useful by other professional people interested in physical activities." They thank Dr. Josephine Rathbone for her valuable assistance in the preparation of the manuscript.

The book has been brought up-to-date, a substantial part of it has been entirely rewritten and new chapters and sections have been added. The chapter on Work, Energy and Mechanical Efficiency has been expanded to cover most typical muscular activities. Sections on Body Types and Posture have been added. The chapter on Health and Physical Fitness, as well as the section on Longevity, has been rewritten. A brief chapter on Physical Activities for Convalescents and one on Ergogenic Aids have been added. The chapter dealing with high altitudes has been omitted from this edition.

It is believed that this book contains much that will interest physical therapists.

Anatomy of the Human Body. *By Henry Gray, F.R.S., Late Fellow of the Royal College of Surgeons, Lecturer on Anatomy at St. George's Hospital Medical School, London. Twenty-fifth edition. Edited by Charles Mayo Goss, M.D., Managing Editor of the "Anatomical Record"; Professor of Anatomy, Louisiana State University School of Medicine, New Orleans, La. Cloth. Price, $14. Pp. 1478, with 1263 engravings. Lea & Febiger, Washington Square, Philadelphia 6, Pa., 1948.*

This edition has been thoroughly revised and many illustrations have been replaced or added wherever research in the expanding science of anatomy has offered new material or new points of view. Doctor Goss has made extensive changes in the section on muscles and fasciae and to a lesser extent in many other portions of the book.

Although the arrangement of the muscles in regional sequence has been retained, the action and nerve supply are given separately for each muscle instead of immediately following the descriptions of the muscles. Many of the descriptions of the fasciae are based upon the unpublished original research of the editor and upon the results of recent investigators in this field. The references at the end of the chapters are much more extensive than in previous editions. Most of the illustrations are in color and, without exception, each one plays its specific part in the development of the text.

In this edition Gray's anatomy is still the most labor-saving and practical text on the subject, unequalled in arrangement, absolutely authoritative and unexcelled in its accuracy and in the clarity of its concise yet comprehensive presentation.

This book is highly recommended to physical therapists as an effective textbook on human anatomy, and also as a reference work in their daily work.

Nursing for the Future. *A Report Prepared for the National Nursing Council by Esther Lucile Brown, Ph.D., Director, Department of Studies in the Professions, Russell Sage Foundation. Cloth. Price, $2. Pp. 198. Russell Sage Foundation, 130 East 22nd St., New York, 1948.*

Many thoughtful persons are beginning to wonder why young women in any large numbers would want to enter nursing as practiced or schools of nursing as operated today. Whether in general the ideal of service be smaller or larger than formerly, American culture is certainly influenced to no slight degree by considerations of remuneration and prestige. Even the decision to enter a particular profession is determined in considerable measure by the possible financial gains and the status that may be expected. Once within the profession, its members tend to gravitate to places where opportunities for economic gain, pleasant living and professional and social recognition are favorable.

The National Nursing Council for War Service was created in 1942 from the Nursing Council on National Defense. Although originally established for the duration of the war, it has continued as the National Nursing Council. The Council was convinced that inadequacies in both the quantity and quality of nursing service stemmed primarily from an outmoded system of nursing education, which was no longer capable of attracting the number of students needed, or of giving the varied preparation requisite for nursing today.

Hence, it requested a grant from the Carnegie Corporation of New York that would permit a careful examination of the current situation. The author of this book was appointed director of the study. Doctor Brown's report has been prepared with provision for the nursing and health needs of society as the first objective. Her recommendations for the future of nursing education have been formulated in the light of how those needs might best be met.

Up from the Ape. *By Earnest Albert Hooten, Professor of Anthropology, Harvard University: Curator of Somatology, Peabody Museum of Harvard University. Second edition. Revised 1947. Pp. 778 with 78 illustrations, 39 plates and 11 tables. Price $5.00. The MacMillan Company, 60 Fifth Avenue, New York, 1948.*

The author of this monumental work needs no introduction. This scientific presentation of man's development is a book that cannot help to be fascinating to anyone interested in evolution of man. The volume should prove fascinating reading to the physiatrist and the physical therapist whose work is so closely related to anatomy and physiology. The author states that genetics is still a thinly cultivated field, sporadically scratched. Endocrinology he states is slowly advancing from quackery and speculation to an experimental science, but its part in human evolution is still a matter of hypothesis and dialectics. We have begun to study the total man and it is certain that the study of the whole man will yield great dividends.

The volume is divided into six parts. Part one deals with man's relations; part two, the primate life cycle; part three, the individual life cycle; part four, fossils, ancestors, and collaterals; part five, heredity and race; part six, the anthropology of the individual. There is an excellent appendix on elementary anthropometry. The volume is well illustrated.

The book is written in simple understandable language so that one can easily grasp the subject even without a scientific training, and yet the subject does not suffer from this clear, concise and somewhat popular presentation for the scientifically trained reader. This work should be read by everyone in the field of physical medicine.

Give Them a Chance to Talk. Handbook on Speech Correction for Cerebral Palsy. *By Berneice R. Rutherford. Paper. Price, $2.75. Pp. 116. Burgess Publishing Company, 426 South 6th St., Minneapolis 15, Minn., 1948.*

Dr. John F. Pohl, Orthopedic Surgeon, Michael Dowling School for Crippled Children, wrote the foreword of this book, and he says: "In a field previously unexplored Mrs. Rutherford has made observations and developed technics which are original. Her skillful and patient handling of the speech problem has been fruitful in opening up vital avenues of expression for children afflicted with cerebral palsy."

There is no characteristic cerebral palsy speech. Just as there are differences in the physical and neurological manifestations among individuals affected, so are there differences in speech manifestations. Speech behavior varies from type to type and within each type there are significant differences. Because there is so much variation among speech problems of children who have cerebral palsy, it is doubtful that a particular therapy is ever universally applicable. The therapy employed must be determined by the character of the condition being treated.

This book suggests certain principles and technics that may be used, under a variety of conditions, to aid clinicians in diagnosing and correcting speech defects of children affected by cerebral palsy. This book is recommended to physical therapists treating cerebral palsy as giving them a better understanding of the problems involved in speech correction of the cerebral palsied child.

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